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LABOUR MOBILITY IN GREEK INDUSTRY: INTER AND INTRA-GENERATIONAL TRENDS

BY

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CONTENTS

CONTENTS/Cont'd

Cont'd

CONTENTS (Cont'd) Page

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

A J S	=	American Journal of Sociology
A S R	=	American Sociological Review
F G I	=	Federation of Greek Industrialists
G P C	=	Greek Productivity Centre
I S I C	=	International Standard Industrial Classification
I O I	=	International Occupation Index
N A D	=	National Accounts Division, Ministry of Coordination
N C S R	=	National Centre of Social Research (Athens)
N S S G	=	National Statistical Service of Greece
O E C D	=	Organisation for Economic Cooperation and Development
S E I	=	Socioeconomic Index (Duncan)

ABSTRACT

The study presents inter- and intragenerational trends in industrial mobility rates of employees in Greek industry and analyses variations of rates by means of individual's socioeconomic features and characteristics of their social and industrial environment particularly.

This research had three main objectives. The first objective was to set out trends in education and occupation from father to respondent (intergenerational rates) accounted for by a number of explanatory variables such as respondent's sex, age, family context, origin etc. The relationship between educational attainment and occupation was considered of particular interest to be studied since it is directly related to social structure.

The second objective rested upon the explanation of respondent's occupational achievement process in terms of family background variables, such as father's education and occupation and the number of siblings, and by means of respondent's features, such as place of residence, sex, age, educational attainment and status of his first occupation. Direct and indirect effects of all these variables on the occupational achievement, especially shaped the final target of this topic.

The final task was to analyse the industrial mobility rates of individuals' job changes, occupational changes , movements

between the sectors of the economy (intragenerational trends) during their working life and for a period of ten years (1965-1974). These trends were studied by means of respondents' job history (number of changes and their nature), occupation and demographic characteristics (sex, age, marital status and geographic origin) and industrial constraints such as the size of establishments and classification into industrial branches. The reasons for changing jobs or staying permanently in the same job had also to be considered.

To achieve these aims a sample of one thousand industrial workers employed in one hundred establishments of the Great Athens area were extensively interviewed.

This thesis consists of six chapters. In the first chapter a review of methodological problems concerning the mobility measurement reveals that certain deficiencies, either in the comparability of various forms of mobility or in the measures themselves considerably undermine the exactitude of the measurement.

The second chapter is concerned with a sketch of socioeconomic features of employees and industries in the Greater Athens area where the survey was carried out and with the sample design and interviewing, which consist the background of this survey.

In the third chapter are displayed educational and occupational mobility patterns from father to respondent. It is found that high educational mobility underlies respondents' generation. Occupational mobility is also significant but a comparison between educational and occupational patterns reveals that a considerable part of educational upward mobility is not followed by equivalent occupational mobility.

The fourth chapter traces a further step through path models to determine the magnitude and the direction of direct and indirect effects of family background variables on respondents' occupational status. It is found that education remains the fundamental source for occupational status.

The fifth chapter considers industrial movements during respondents' whole career and particular attention is paid to the period 1965-1974. Job mobility is found to be considerably high when respondents' whole career is analysed; but conversely, movements in this decade (1965-74) are extremely low. The reasons for job changes that respondents mentioned give the priority to economic motives, while for those who remained permanently in the same job, opportunities for advancement and working conditions are the predominant motives.

Finally, the sixth chapter concludes with a summary of the findings and further research is mentioned.

Information of this nature may assist in manpower planning, in education and, particularly, in technical education policy and as an insight into Greek society.

INTRODUCTON

In this study an effort was made to investigate inter-generational social mobility, and intragenerational industrial movements of employees in the manufacturing sector in the Greater Athens area,and to study factors accounting for their occupational achievement process.

Social mobility presupposes the existence of social classes. Unfortunately in Greece no study of social stratification has been carried out. A few recent historical monographs shed a certain amount of light on the formulation of Greek society, but no clear picture of its social structure is available. Simple observation suggests that social inequality, based on mainly financial constraints, does indeed exist. This provides some grounds for an integrated study.

In a country with 16% of the occupied population in industry no research on labour mobility as such has ever been carried out, although studies of this kind would facilitate educational and occupational planning. This holds true for countries in the process of development and in transition from a rural to an industrial form.

Of course, it is not claimed that the present investigation can fill the above mentioned gaps, but it does reveal some basic facts upon which further research could be based.

The hpothesis of this study emerged from the commonly accepted view that the better educational and occupational conditions created during the last two decades would have affected mobility patterns. This hypothesis raises a number of questions which have been considered in planning the present investigation. Time and limitation of economic resource dictated concentrating on a few topics dealing with the relation of social and labour mobility to the demographic background of the subjects. Reduction in coverage of the study might have deprived it of valuable findings but it has meant better conclusions, in the sense that a more sophisticated treatment of the data was secured by the application of rigorous techniques.

1. METHODOLOGICAL PROBLEMS IN MEASURING MOBILITY

A number of methodological problems arise in mobility studies. They can be classified into two major categories: (a) problems related to comparability of mobility elements in time and space, and (b) deficiencies linked with the mobility measures themselves. Each of these two braod categories concerns inter- or intra-generational mobility and spatial comparisons as well.

1.1 Problems of Comparability

1.1.1 The Time Point in Comparison In intergenerational mobility studies the time point for a comparison is problematic. Even selecting the same point in both generations is open to question, since social mobility is almost exclusively concerned with occupational mobility and respondents and their fathers at any point in time are at a different period of their career. It therefore remains disputable what period of the career is the most representative in respect to occupational status.

In empirical surveys many approaches have been adopted to try and overcome these problems. So father's occupation at the time of the respondent's birth or in his adolescence or father's longest held occupation are amongst the most commonly used procedure (Duncan, 1966b:149). For the respondent, on the other hand, the relevant point is usually taken, as occupation at the time of the survey, or first occupation or other points of his career.

Some researchers, however, prefer to fix the time point in a certain age or period, so Rogoff (1953) suggested the period at marriage for both generations, Glass (1954) took as a reference point father's and respondent's occupations after their fifties, while Lenski (1958) chose occupations after their forties, Lipset-Bendix (1959) compared father's occupational status when they were at the same age as the respondent and Yasuda (1964) proposed to use the time the career began for both generations.

It is apparent that a time point similar in both generations implies some advantages since the common base undermines to some degree age effects on comparisons. But, as can easily be seen, beside the fact that these points are in reality arbitrary and empirically determined, a matching of the same ages of respondents in both generations requires large samples and omits most of the present population. In addition, it neglects the relation between inter- and intragenerational mobility, despite the fact that individuals of the same age experience different intragenerational mobility. Furthermore, each generation at the same exactly age experiences different socio-economic conditions and consequently their socialisation is governed by different factors. Changes also take place in labour force composition. So some occupations decline and others grow. Farming, for instance, turns out to be dominant occupation among fathers while industrial workers prevail in contemporary industrial societies.

In this survey the approach for determining father's and respondent's point in time was as follows: Father's occupation has been taken as that followed when the respondent was at the age of fourteen (1), in the sense that this period should be regarded a crucial point for respondent's future career (2). On the other hand, respondent's occupation was taken as that practised at the time of the survey.

Obviously this approach introduces the problem of different ages in the comparison of two generations. Thus we found empirically, in a subsample of 67% of the respondents (3), that both in the cohort 15-24 and in the cohort 25-34 that fathers' ages spread across a very wide range of five categories from age 35 onwards (see Appendix C7).

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(1) An individual can enter the labour market officially at the age of fourteen.

(2) In practice differences in occupation that father practised at time of respondent's birth and at the time the respondent was fourteen years old are negligible. A measure of association between father's occupation in these two points of time is very high (C=.877, max C=.894), or from a different viewpoint, 95% of fathers having been found is the diagonal of mobility matrix - intragenerational occupational mobility table - have been found to follow exactly the same occupation in a span time of fourteern years. Some reservations for inaccuracies, however, should be made since father's occupational history was reported by respondent (Duncan, 1966b:155).

(3) This subsample, including only those respondents having living fathers during the survey, cannot be considered as a random sample of our population, since it is limited in younger respondents, it does, however, allow us to create some picture of father's age distribution at respondent's time of birth.

This indirectly indicates that fathers at respondent's birth and apparently at the age of fourteen present various ages with high dispersion. This variation in ages further suggests that respondents of the same age have fathers at a different period of the latter's career, and it is even the case that some of the fathers are still in the labour market and others are not. Therefore father's occupational distribution relies on a variant base, insofar their ages and consequent career periods are concerned. This deficiency is more marked when considering intragenerational mobility, since individuals as a rule change occupational positions and these shifts are affected by the previous ones (Blumen et al, 1955; Carlsson, 1958; Blau-Duncan, 1967). Thus the number of changes is directly linked with individual's age and as such composes a fundamental element of mobility.

1.1.2 The Family Context in Intergenerational Mobility

All empirical studies of social mobility compare the status of sons to fathers status from the son's present position. In the case where there is only one son in the family this procedure does not matter in defining the type of mobility (Bartholomew (1967) 1975:32) - up or downward mobility or inheritance. But when there is more than one son in the family, 'the inflation' factor operates (Yasuda, 1964:143), that is two or more sons belonging to the same father, imply different family occupational distributions, according to the number of sons and occupations they follow. Then the type of mobility in the family level depends upon which son is taken as a base line for comparison. Yasuda (1964:141-144) in an

empirical example shows that in a family including three sons who follow different occupations, three different types of mobility are found with significant variations. Therefore a base line of comparison from son to father differs to that of father to son, since the latter one depends upon which son is taken to be compared with his father.

Nevertheless, not only the number of sons (siblings) influences intergenerational comparisons, but sons ordering as well affects mobility patterns. In primageniture societies - and Greek society to some extent can be considered as such - occupational inheritance is mainly secured by the first-born son, and in general younger siblings' occupational status is influenced by that of older siblings. Thus once again appears the problem of what base line of comparisons is followed.

1.1.3 The Grouping of Occupations Occupations, as it is known, differ in a number of ways, such as the nature of work, the prerequisites for entry the work situation - private or public - and so forth (Hall, 1969:261-263). This differentiation increases difficulties in occupational classification for the actual occupations classified in one group are often too heterogenous or many socio-economic characteristics overlap various occupations. Furthermore, within the classification scheme the number of groups is arbitrarily defined, and therefore the measurement of mobility based on any occupational classification scheme, give rise to "a biased conception of compound social structure" (Mayer-Müller, 1971:171). It is apparent that, insofar as occupation defines social class,

class boundaries are not clearly determined. Broad occupational categories such as white-collar, blue-collar workers and farmers, can yield more or less distrinctive boundaries (Blau-Duncan, 1967:58). This procedure is almost exclusively used in interspatial comparisons based on the 'heroic assumption' as Fox-Miller (1965:1) stated that this classification is equally important in all nations at all times, but at the same time this broad classification implies losses in information when finer analysis is worthwhile. Moreover, it neglects intra-stratum mobility, that is movements from unskilled to skilled, from lower levels of middle class to upper level of the same class and so forth.

In this survey the grouping of occupations followed the classification system that NSSG uses (see Appendix B1), that is the International Occupational Index (IOI) with slight modifications. This grouping of occupations mainly deals with a concentration of homogeneous occupations in each category, which to some extent indicate a ranking as far as their prestige is concerned. However, for reasons of the adequacy of frequencies in a cross-sectional occupational tables, some categories (or groups) collapsed to adjacent ones, as follows:

(1) Administrative, professionals and executives.

(2) Clerical, merchants and sales workers.

(3) Service workers.

(4) Farmers.

(5) Craftsmen and labourers.

Since this survey aimed at the investigation of employees in the manufacturing sector, this has meant that the overwhelming majority of respondents have been classified in the category 'craftsmen and labourers', and the category 'farmers' hardly used at all. Also, for the rest of the categories we cannot say, in any way, that they reflect the real distribution of economically active population into occupational categories because only those occupations linked with the manufacturing sector they have been met in this survey. For instance, pharmacists in the drug-perfume industry compose a small proportion of total pharmacists, the majority being self-employed. This generates a lack of correspondence of occupational categories between the two generations and causes problems as we shall see later in applying certain mobility measures.

1.1.4 Occupational Status The studies of occupational mobility are concentrated on movements between occupations at different levels of socio-economic status. Obviously any scale of occupations is less than perfect, since many deficiencies concern measurement techniques and classification procedures of variables used to determine occupational status. Moreover, the analytical models which are used to form an index for ranking occupations themselves contain assumptions which add to their imperfections (Blau-Duncan, 1967:117-199; Mayer-Müller, 1971:174-175). In point of fact, a method which assigns occupations in a quantitative way, say occupational status, may serve as a gross indicator of the differential ranking of occupations and permits a further analysis.

There is a variety of occupational status indices which concern different countries and rest on different methodological approaches (4). In Greece no attempts have been undertaken to provide a social grading of occupations. Thus we have to use one of the indices that have been applied in other pertinent cases.

Duncan's Socio-economic Index (SEI) (Reiss, 1961:109-138 and 262-275) has been chosen for grading the occupations because: first, it uses a multidimensional approach combining information on education and income to rate occupations and takes into consideration prestige of selected occupations as it is obtained from the NORC Survey. Secondly, applying rigorous techniques such as multiple regression to represent the educational and income distribution of the occupation and

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(4) NORC in USA (1947) and Hall-Jones in the UK (1950) reviewed by Reiss (1961) and Moser-Hall (1954) are among the well-known occupational status indices. They rely on 'prestige' but they use it in a different sense. According to Hall-Jones Index, social prestige of occupations is "indicated by the class of people with whom person associated whether at leisure or work". This Index provides seven wide occupational categories and the main criticism is a shortcoming in details and categorisation is inevitably arbitrary. In the case of NORC respondents made evaluation of occupations rather on the basis of occupational rewards or occupational requirements than in terms of social prestige. Since the intervals between scores are not equal the index is an ordering of occupations (Goldthorpe-Hope, 1972:27-29; Macdonald, 1973:103-104; Hall, 1969:268).

Goldthorpe and Hope Index for the UK (1974) besides individuals' occupational role it takes into account their employment status, i.e. the size of the company. This index seems to be nearer in the Greek practice, but to use it (a) occupations must be coded according to OPCS procedure which in turn requires that they must be identifiable in the OPCS index of occupational titles, and (b) requires information on the employment status of the respondent (Goldthorpe and Hope, 1974:71).

adjusting them to age differences, the index assigns scores of occupations in a more realistic way. Thirdly, it has the advantage of being available for 446 two-digit detailed occupational titles, assigning values from zero (lower status) to 96 (highest status). Finally, for the occupations in this survey which were first coded according to International Occupational Index, SEI provides for certain categories a full correspondence and therefore the recoding from IOI into SEI can be easily made.

More precisely, occupational categories: professionals, managers - officials, proprietors, clerical, sales service workers and farmers are met in both classifications, i.e. IOI and SEI with exactly the same occupational titles. Difficulties arise in recoding occupations which are met in the category 'craftsmen and labourers'. As is known (Reiss, 1961:262-275) SEI provides a grading of occupations in terms of their skill (craftsmen, technicians, labourers or operatives). Conversely, IOI makes the categorisation of occupations on the base of industrial branches in which workers are employed (workers of metal or textile or chemical industry and so forth) and by no means provides a discrimination between skilled and unskilled occupations.

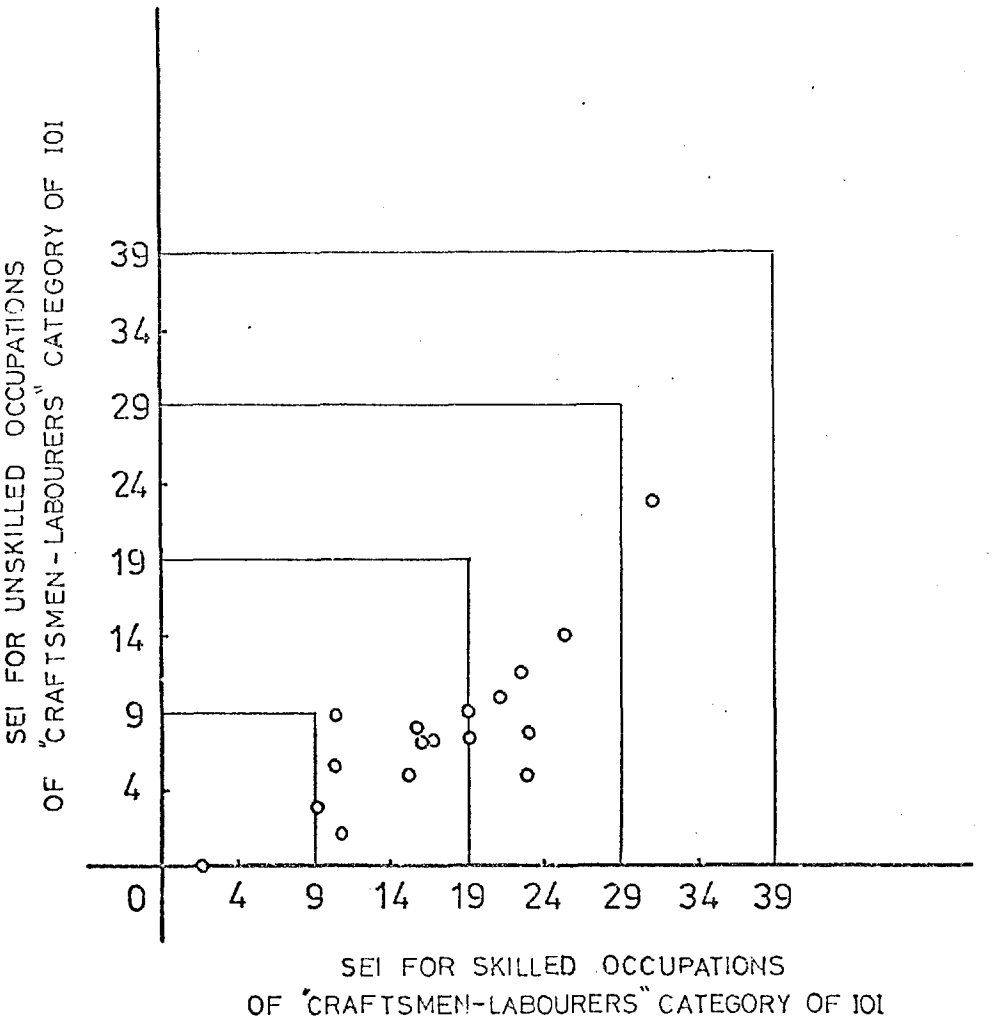
This weakness was in practice overcome as follows: (a) in the case of respondent's occupation the level of skill derives from the question 8 (see Questionnaire, Appendix A1) and it was taken into account in the recoding, (b) in the

case of father's occupation, since no relative information for their skill was available, an average was taken of the two SEI scores, skilled and unskilled, and thus was used as the basis for the new SEI score (see Appendix B1). This procedure apparently implies a bias either overestimating or underestimating father's occupational status. The relationship of the scores for the same occupation in the skilled and the unskilled categories in terms of the SEI is given in Diagram 1 below.

This diagram suggests that occupational status designated in ten-point interval scale, precedes one interval in the case that an occupation is assigned as skilled. In general the overwhelming majority of socio-economic statuses were found to lie between 9 to 29 in the case that an occupation is characterised as a skilled one and zero to 19 when it is assigned as an unskilled one.

The procedure described concerns about 15% of father's occupation. In practice, however, errors emanating from this source are not expected to affect our findings considerably. This drawback is further eliminated, since using a ten-point internal scale of SEI in statisitcal computations (i.e. regression analysis), scores of skilled and unskilled occupations often coincide in the same interval.

FIGURE 1 : RELATIONSHIP BETWEEN SEI FOR SKILLED AND UNSKILLED OCCUPATIONS OF "CRAFTSMEN AND LABOURER" CATEGORY OF 101



A more noticeable bias occurs in relation to the use of SEI itself. As previous references have shown this index has been established for a country, like America, with a different socio-economic development tradition and probably different values. Moreover, as it was formed in 1961, it is likely no longer to reflect the contemporary occupational structure; some occupations decline and others appear following technological developments. Thus one can assume that a change in occupational structure might affect occupational prestige, especially for countries being as economic development process (5).

1.1.5 Interspatial Comparisons In interregional or inter-comparisons, as Fox-Miller (1965:1) pointed out "many of the difficulties of individual studies are compounded in comparative perspectives". To secure a comparability it is necessary to utilise in the same time periods, occupational titles and scaling. However, in practice this full comparability is rather difficult, and despite the fact that many methods have been followed to compile data in a more or less common base, only approximations of comparisons can be derived.

But while these problems of exactly comparable data should be regarded as technical ones, other factors concerning the type

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(5) Hodge et al (1964:296) have shown that occupational prestige scores in the USA have been almost stable for a period of about fifty years.

of societies should be considered equally important, insofar size and occupational structure of communities are concerned. Social and economic conditions differ whenever a society is designated as small or large; since a community's size, to some extent, defines its socio-economic character in the sense that is more likely that a large community is industrialised. This further suggests that occupation conditions are ruled by the type of the society (industrial or agricultural), since economic opportunities and in general the chances of occupational achievements considerably vary between these two major categories (6).

A relative problem in interspatial comparisons concerns migration, which as Blau-Duncan (1967:243) stated "provides a social mechanism for adjusting the geographical distribution of manpower to the geographical distribution of occupational opportunities". Taking for granted that emigrants in general have more successful careers than non-migrants (Blau-Duncan, 1967:256) it can be easily shown that societies of receptioning migrants are in a privileged position in respect to societies from which migrants are recruited. Furthermore, their occupational distribution and in general labour market conditions have not been held constant. Thus comparisons must take into account whether communities are under the migratory process.

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(6) Indicators of the opportunity structure vary from 40.0 (very large city) to 17.5 (rural areas) (Blau-Duncan, 1967:249).

1.2 Problems Related to Mobility Measures

From the very beginning in empirical studies practical questions concerning the amount and character of individual's movement from his own previous position (or his father) to a current position or factors influencing mobility patterns have been focuses of the social scientist's interest. These questions prompted scholars to seek summary measures which could enable them to give a satisfactory answer.

As mobility is a complex social phenomenon accounted for by an individual's characteristics and features of his socio-economic environment, it can readily be assumed that a number of hypotheses have to be put forward for its study. Furthermore, there is an interrelation between assumptions on one hand, and technical requirements that mobility measures involve, on the other, both affecting the concept of mobility. Indeed in certain cases technical requirements dictate necessarily the sort of assumptions (for instance, the assumption that transition probabilities are constant over time,one which emanates from the requirements of the Markov models) or conversely, assumptions underlie technical requirements of mobility measures.

Three families of mobility measures underlie relevant literature: (i) mobility indices, (ii) stochastic processes models, and (iii) multivariate techniques, and each of them sheds some light on certain aspects of the concept of mobility.

In this chapter our intention is not to give an account of mobility measurement but to set out general methodological problems that each family of these measures implies, especially indices and multivariate techniques since they are used in this study. These methodological deficiencies concern either assumptions upon which various measures rest or technical requirements that these measures demand.

1.2.1 Mobility Indices These have proved a handy tool for measuring mobility. They study (i) the amount of mobility, (ii) its direction - upward or downward mobility, (iii) the character - pure or structural mobility, and (iv) the distance that an individual travels to arrive at a certain position from a previous one (7).

A number of mobility indices (Glass (1954), Rogoff (1953), Yasuda (1964)) or the statistical measures such as X^2, mean square contingency - ϕ^2 - Pearson coefficient of contingency, Q statistic, whenever they are used as mobility measures, rely on the assumption of 'perfect mobility', that is the status of the individual should be independent of his father or his own previous status. This means that in a society the amount of mobility is maximal.

In practice, however, distortions of this hypothesis occur since 'inheritance' factors, i.e. influence that fathers exert on their offspring, exist in all societies. In a somewhat

(7) A review of mobility indices, see Doreian (1970:131-134), Boudon (1973:7-39), Bibby (1975:107-136).

technical interpretation, under this assumption it can be predicted - by computing expected frequencies - all frequencies in off-diagonal cells. But frequencies in the diagonal cells of the mobility table, as Goodman (1965:566) stated "can be used to measure the magnitude of the status inheritance, but they cannot be 'predicted' from the model, unless some supplementary assumptions regarding the nature of status inheritance are introduced".

This deficiency led Goodman (1965:564) to modify the 'perfect mobility' assumption introducing the concept of 'quasi-perfect mobility'. According to this hypothesis in every social stratum there is some 'status inheritance' from father to son but "once a son has moved out of his father's stratum, his father's social status exerts no further influence in a certain sense on his own status". However, the assumption that father's status exerts a 'continuing influence' on son's status seems to be equally 'reasonable' at least in certain societies. In other words, one cannot safely allege that under the 'quasi-perfect' mobility assumption, one model satisfactorily predicts a mobility table. Duncan (1966b:166), however, insists that occupational inheritance is much less usefully informative and central from the point of view of father-son correlation or mobility patterns than has hitherto been assumed.

Other indices like those of Yasuda (1964) and Boudon (1973) take into consideration the fact that mobility is dependent on the occupational structure of the society and thus discriminate between structural and pure mobility (8). Consequently this factor should be taken into account in any index - for instance, Matras (1961). The failing to assume that the distribution of occupational statuses among social strata experienced by sons differs from the corresponding distribution of their fathers, leads to a false outcome that mobility is not accounted for by changes in the social structure.

As a rule mobility indices often simplify assumptions whenever it facilitates their conceptualisation. Relevant here is the assumption of the discrete social classes that many 'counting' indices introduced (Bibby, 1975:109). Such a topic is quite clearly of central and continuing concern to sociologists of stratification, be they those leaning towards a discrete classes perspective (Marxists) or those stressing a series of continuance in class phenomena (Ossowski, 1963: 104-105).

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(8) With regard to structural mobility it is understood as that part of mobility emanating from the social structure of the society, that is, in a somewhat different expression "a measure of the discrimination factor which rules over the distribution of the individuals in the social classes" (Boudon, 1973:39). On the other hand, 'pure mobility' is defined as a difference between total and structural mobility or more precisely as an index on measuring the 'freedom' that an individual gets to move within the social classes.

A second category of methodological problems concerns the technical requirements or in general the technical structure of mobility indices.

Almost all indices rest on their marginals, that is, they are not independent of the marginal distributions and consequently do not have a fixed range. Blau-Duncan (1967:93) have proved that "a matrix of mobility ratios (9) implies a unique set of marginals for the corresponding mobility table but the converse is not true". More precisely it suggests that two or more mobility tables with similar marginals may have different structures.

Many indices like those of Yasuda (1964) and Bartholomew (1967) have no well defined limits, therefore their absolute value cannot be used for comparisons of mobility tables unless the same categorisation is followed.

The majority of indices (10) require a square mobility matrix (table) which in turn suggests that a full correspondence between rows and columns in a mobility table must necessarily exist. However, in point of fact - as we have seen in the grouping of occupations in this survey - this full correspondence is often impossible under the context of the limits of the survey. This restriction forces researchers - if they insist

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(9) Mobility ratio is given by $R_{ij} = \frac{\text{observed values}}{\text{expected values}}$

(expected values are calculated with the ordinal way in a contingency table).

(10) Bartholomew's Index (1967) and Goodman approach (1965) can be applied in rectangular mobility tables as well.

on working with indices - either to create wider aggregates which in most cases it implies a loss of useful information or to use other measures with less conceptual interpretation.

The number of categories and their ordering in a mobility table influence many indices. Goodman and Kruskal (1954:737) stated that "changes from a finer to a coarser classification (or vice versa) can affect all the measures of association of which we know". This undermines the comparability of indices only within the context that certain categories were used. Relevant to this weakness of the mobility indices is the deficiency that Bartholomew's Index shows, since it depends on which generation is chosen as a base line for comparisons (Bartholomew, 1967,(1975):24).

This review leads to the conclusion that, under assumptions used and technical requirements that underlie mobility indices, there is no one perfect measure which can answer the various problems referred to here. From the indices' extensive use in the empirical field it has been proved that one index is the best measure in one case and the worst in the other. Obviously this sensitivity undermines the indices' validity and other more rigorous techniques have been asked for. In this category belong the stochastic processes models.

1.2.2 Stochastic Processes Models These aim to describe mobility tables and furthermore, to forecast mobility in a future point in time. Markov or pseudo-Markov models have been widely used in mobility studies (11).

The underlying conception of stochastic processes models is an over-time probability process (transition probabilities) which mathematically necessitate a number of assumptions. Originally, these assumptions concerning Markov chains, have been used by Blumen-Cogan McCarthy (1955) in intra-generational labour mobility investigated the 'flows' of employees between occupational categories in the USA, using data for the whole population. Since, however, Markov chains hypotheses have become a point of reference in modifications of mobility models a summary of their most important assumptions is worth repeating.

Thus: (i) transition probabilities are constant over time, (ii) mobility behaviour is dependent only on the current states of individuals and not upon their previous states, (iii) the same transition probabilities characterise all members of the population (homogeneity), (iv) the population is closed in the sense that no individual enters the group being analysed and none die, and (v) each father is replaced by only one son.

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(11) For a review of these models, see Bartos (1967:119-147), Bartholomew (1967, 1975:15-24), Tibbitt (1973:29-43), Boudon (1973:40-136).

These assumptions reveal that technical requirements (or mathematical needs to build a model) that the stochastic models impose, inevitably lead to a number of restrictions that oversimplify the concept of mobility and hence a discrepancy from reality occurs. The hypothesis, for instance, that transition probabilities depend only upon the current state (occupational status) of an individual and not upon his previous one; is not consistent with current sociological theory and practice. In intragenerational occupational mobility the trend of individuals moving from lower occupational statuses to higher ones seems to be constant in all empirical surveys (Blau-Duncan, 1967; Carlsson, 1958).

Under those unrealistic assumptions Blumen et al's (1955) original model seriously underestimated the number of workers in a given industrial category (state), the underestimation being larger with the lengthening of the period of time. This led them to reconsider the assumption of 'homogeneity' of population, dividing it into 'movers' (free to travel from one occupational category to the other) and 'stayers' (never move out of the occupational category). The 'relaxation' of this assumption resulted in an improvement of the model but it still does not satisfactorily predict the observed mobility matrix (12).

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(12) The validity of a model is tested by considering deviations between observed values (distributions) and predicted values through models. Statistical tools of 'goodness of fit' have never been satisfactory (Tibbitt, 1973:32) and methodological deficiencies are driven towards measures of testing models as well.

Mayer's (1968) model modified the same assumptions, i.e. that transition probabilities are similar for all members of the population, assuming this holds only for individuals of the same age (or groups of ages). Since, however, this model was applied only to one cohort, its adequacy is rather difficult to appraise.

McFarland (1970) model rejects the assumption of 'homogeneity' of population, and indeed assumes that the empirical excess in the amount of stability for predictions derived from the Markov claims models may be explained by the 'heterogeneity' of the population. Boudon (1973:99) reviewing this model, stated that the excess stability over time, that is that some sub-classes of people become increasingly stable as time elapses, is most important for mathematical conceptualisation and sociological realism.

Obviously the most restrictive of the above mentioned assumptions is that each father has exactly one son. Thus Matras' model (1961) introduced the intervening variable of differential birth rate between classes, assuming that there is a relationship between social mobility and differential fertility. However, though this model introduced the intervening variable of fertility in a realistic mathematical way, a weakness remains insofar as the causal ordering between social mobility and social structure is concerned (Boudon, 1973:116).

White (1970) proposed the 'vacancy model' according to which mobility of individuals is treated as a dependent variable. The appearance of vacancies in the system of jobs comes first in the causal ordering. When new vacancies are created they give rise to further vacancies which in their turn are filled and so forth. This model has been used in the study of mobility within organisations and in order for it to be applicable, one assumes that vacancies move as function of their individual history and thus must refine the Markov chains assumptions (Boudon, 1973:104).

The Cornell Mobility model (McGinnis, 1968) departs from regular Markov chains and assumes that the hypothesis of constant transition probabilities over times is not applicable but suggest instead that the longer an individual has remained in a given state (occupational category, for example) the more likely he will stay in this state subsequently. This model known as that of 'cumulative inertia' appears too complicated to apply in empirical studies.

This brief review of assumptions and limitations of the most important stochastic models of mobility sheds light on the main consideration of this chapter; i.e. whether or not stochastic processes models can adequately describe a mobility table. Most emphatically stochastic processes models give rise to a better interpretation of the concept of mobility than mobility indices. Nevertheless, these models are largely limited to theoretical discussion, rather than practical evaluation.

1.2.3 Association Measures and Multivariate Techniques such as correlations, multiple regression and path analysis are widely used in analysing relationships between variables. These methods have been particularly useful when final status is taken as a dependent variable which in turn is accounted for by a number of explanatory variables such as education, occupation, social origin, fertility etc.

Many advantages characterise these measures. The fact that they can give an answer in vital questions concerning the degree and direction of certain relationships of the dependent variables explained by independent ones, put them in an outstanding position, insofar their applicability is concerned. Moreover, since their structure allows an introduction of many intervening variables into, say, a multiple regression model without changing the model (13), emphasise their practical merits (Boudon, 1973:107).

Despite, however, many advantages that association and multivariate measures imply, many problems are found as well. More precisely:

(a) these techniques require variables to be assigned in a quantitative way (Duncan-Hodge, 1963:630). Nevertheless, given that most variables associated with the mobility topic, such as occupation, education, status etc are categorical ones,

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(13) Conversely in stochastic processes models a new intervening variable suggests in reality a new model.

their transformation into a continuous variable involves a number of methodological difficulties. Indeed, in order to establish a proper index for carrying out such a 'translation' many elements must be taken into consideration. Even in a careful procedure of indexing categorical variables any method can be considered less than perfect. For instance, 'prestige' being a constituent variable from a number of other variables such as education, occupation, earnings etc has been indexed in various ways, and therefore assigned different values (see Duncan, Goldthorpe, relevant indices). The degree of measurement reliability is particularly interesting for unreliable measurement present a more formidable barrier and lead to false conclusions (Heiss, 1969:57).

(b) The relationship between two variables is tested by a correlation coefficient. However, other variables often affect the relationship between the variables and result in a so-called spurious correlation. Though the technique of partial correlation isolates such influences, in practice many problems arise especially when the nature of variables is not easily interpreted in a real world (Blalock, 1964:5).

(c) Path analysis which can be considered as a finer technique of this family of measures can interpret causes and effects of one variable on another, taken occasionally as dependent and independent variables. This tool has been proved particularly useful in analysing occupational status

(see Blau-Duncan, 1967; Duncan, Featherman, Duncan, 1972 etc). Nevertheless, since path analysis is a form of the multiple regression a number of hypotheses and restrictions for application of this technique are present as well.

Thus besides assumptions of multiple regression (i.e. sample units must be independent of one another, residuals must not be correlated among themselves etc), path analysis can only be applied when the relations among variables in the model are linear additive and causal. This apparently excludes curvilinear, multiplicative and interaction relations which rather often are met in mobility variables. Perhaps the most characteristic assumption underlying path models is the temporal order of the variables. Thus the identification (Heise, 1969:52-57) of variables and their ordering in the causal model is a crucial problem. However, some variables cannot be interpreted in a time order, such as age in a model of occupational status, and hence other manipulations take place like an analysis by cohorts. Moreover, the structure of the model presupposes an empirical knowledge about the behaviour of variables entering the model which, in practice, is not always possible to attain. Difficulties of overidentification (Land, 1969:35), on the other hand, that is where a causal stage is not justified by the data, often reveal that model does not 'fit' the data and consequently it leads to reconstructing it. Obviously only one ordering of variables is correct for a given system and only with that ordering will obtain a model which is valid. There is no error-check mechanism in path analysis to reject an incorrect

ordering. Furthermore, it is not a method to discover causal laws but a way to give a quantitative interpretation of a given causal system as it operates in a particular population. For this reason, as Heise (1969:57) stated "use of such a model in explanation or simulation would constitute mere fantasy since one would be operating in an imaginary world which corresponds to reality only in gaining the correct correlations between variables".

In closing we conclude that the complexity of the mobility topic implies a number of methodological problems. Either these problems are related to the theory of mobility in its social context or they concern mobility measures, they undermine the exact measurement and only approximations can at the moment be obtained.

2. A REVIEW OF LITERATURE CONCERNING MOBILITY IN GREECE

The first mobility studies to be carried out date from a century ago (1), extended over many countries and deal with various aspects of the subject. In Greece mobility was studied almost exclusively from the viewpoint of migration and despite a history of extensive migratory movements since ancient times, serious attempts to investigate the phenomenon commenced mainly in the sixties.

An extensive list of references on migration is given by Vlachos (1966) in his "annotated bibliography on Greek migration". It contains: (a) general works on Greek migration, (b) works on Greek immigrant communities in the five continents, and (c) studies of immigration and assimilation of Greeks in the USA. The emphasis is mostly on sociological enquiries on emigration and in the period up to the Second World War the literature mainly focuses on migrants to the USA.

The review of pertinent literature given here is not exhaustive, since our main concern is with the period from 1960 onwards. A classification, however, in broad categories will facilitate interpretation.

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(1) Norwegian Eilert Sundt (1840) and Dane Jeus Rasmussen Hubertz (1864) are among the very earliest contributors to the empirical studies of social mobility (Svalastoga, 1959:299).

2.1 SOCIOLOGICAL SURVEYS CONCERNING INTERNAL OR EXTERNAL MIGRATION WITH EMPHASIS GIVEN TO MOBILITY PATTERNS

Sociological surveys designed mostly for comparative purposes between areas or across groups of individuals are of an entirely descriptive nature, showing simple patterns of mobility and emphasising differences where these occur. No analytical approach has been followed, in the sense of applied advanced statistical techniques and rigorous interpretation of the usually complex network of relations among various variables. Furthermore, the small samples upon which most of these surveys have been based, undermine the general validity of the results and are valid only for various regions of Greece, and not for Greek society as a whole.

2.1.1 Surveys Concerning Internal Migration. The most important studies that describe internal migration patterns are:

(i) A survey by NSSG (1963): carried out on a sample derived from the 1961 census and covering 95% of internal migrants who changed their commune of residence since 1955. This study provides information regarding total population exchanges between and within geographic areas and regions and urban and non-urban areas. These exchanges are studied in terms of the migrants' particulars such as sex, age, type of employment for those who are economically active.

(ii) Moustaka's (1964) comparative study of urbanisation was carried out among 840 migrants from two areas of Greece

(Zagori, Paros) moving into Athens. The main findings concerning occupational mobility were: (a) intragenerational occupational mobility results, mainly from migrants' movement from village to town and follows the pattern of the "rural and urban ecology", and (b) kinsmen of migrants who act as a link between village and town assisted the migrants to find work.

(iii) Sandis (1973), in another comparative study of 522 households in Nea Ionia (a neighbourhood in Athens) dealt with three groups of individuals, i.e. refugees from Asia Minor, internal migrants and Athenians, and investigated the attitudes of the respondents toward their neighbours, their "utilisation of community" and the difference between economic migrants and refugees regarding occupational mobility. She deals with the concept of mobility in two chapters.

In the first she examines geographic moves and duration of moves within Athens and residential social mobility. The main findings are: (a) refugees make more moves than internal migrants before settling in Athens, (b) internal migrants make more moves in Athens than refugees before their final settling in Nea Ionia, (c) Athenians make more moves in Nea Ionia than either refugees or the internal migrants before settling in their present neighbourhoods.

In the second chapter she examines occupational patterns and aspirations, and intergenerational mobility from grandfather

to father and then to son. Intergenerational mobility (father to son) shows that among economic migrants the moves are frequently shifts from farm to non-farm jobs. Refugees experience more downward mobility from father to son, compared to economic migrants, though in the second and third generation individuals from Asia Minor tend to recover their position. The comparison of grandfather to respondent gives the following patterns: grandfathers of refugees tend to hold higher-level jobs (artisans, commercial and professional positions); grandfathers of internal migrants tend to be independent farmers; grandfathers of Athenians are concentrated in semi-skilled jobs. Almost half of the male respondents have experienced upward career mobility, but mostly within the lower category of jobs. Athenian males have moved upwardly more than either the refugees or the migrants, particularly within the lower category of jobs.

(iv) Baxevanis' (1972) work concerns the economy and population movements in the Peloponnesos. It is based upon census data and studies: (a) the volume and direction of migration streams and related spatial variations in net population and the changes in proportions living in villages between 1940 and 1961, (b) the factors in the region's economic base that have encouraged movements to other areas of greater economic opportunity, (c) the weight to be given to selected economic and other social factors in prompting a migrant to move, and (d) the implications of continued population movement and loss in the Peloponessos. The main

findings are summarised as follows: (i) every village has contributed to the movement and more than two-thirds had losses greater than the natural increase of population, (ii) migration is due mainly to the inability of agriculture to sustain the present numbers of people at desired levels of living. But economic motivation is only one, and not necessarily the most important, reason for migrating; other reasons include: restrictive village social system, social freedom and so forth.

2.1.2 Surveys Related to External Migration Giving Patterns of Emigration

(i) Kourvertaris' (1971) work concerns first and second generation Greeks in Chicago in terms of social stratification and social mobility. He compares first and second generation Greek couples in relation to the variables occupation, residence, education, acculturation and status.

The sample contains two groups of emigrants: the first group included 46 individuals having arrived in the USA before the depression (1930), and the second 43 respondents, the married children of a respondent of the first group.

The main findings can be briefly summarised as follows:
(a) The first generation exhibited horizontal occupational mobility throughout most of their life's careers. The second generation showed vertical (upward) occupational mobility in that most of the first generation were engaged in semi-skilled

occupations whilst most of the second generation were employed in skilled, clerical and professional occupations. (b) The first generation, as a rule, had little or no formal American education. The majority of the second generation had either a high school or a college education. (c) Both first and second generation were found to have more intra-generational residential mobility. The first generation had moved from areas of first settlement to more favourable places. The second generation was found to live near the first generation residence. (d) It was claimed that the first generation resisted "social acculturation" while the second generation welcomed acculturation. (e) Both first and second generations had strong bonds to a highly "institutionalised Greek community". (f) Members of both first and second generations include a large number of lower-middle class persons, but the second generation tended to have more upper-middle class members than the first generation. (g) The first generation perceived "social class" in terms of economic success and small business within their community boundaries, while the second generation were more likely to centre attention upon the wider American occupational status hierarchy.

(ii) Tavuchis' (1972) study deals with family and mobility among Greek-Americans. It is based on a sample of 50 second generation emigrant males in New York and New Jersey who had completed high school or college and were employed full-time. He analyses kinship and social mobility patterns and evaluates

the consequences of social mobility as they relate to family patterns and relations.

The intergenerational patterns were based upon occupaticnal status of fathers and fathers-in-law and that of respondents. The second generation (respondents) was found to be extremely upwardly mobile, since the overwhelming majority of them were professionals. They had achieved education and consequently occupations substantially higher than their fathers. But it must be emphasised that the design of the survey included only individuals with rather high educational attainment.

In this study, intragenerational mobility, based again on the occupational status, concerned first: fathers and fathers-in-law at two points of time, that is the time of their marriage and when respondents were in their teens, and secondly, a comparison of siblings and siblings-in-law. The main findings were: a small difference in the occupation of fathers and fathers-in-law at the two points in time; and a mixture of high and low status among siblings.

Findings related to the impact of mobility on ties with specific kinsmen do not suggest that differential class mobility is detrimental to ties with parents and siblings. Kin ties were found to be neither "residual fragile", nor inconsistent with rapid upward mobility in the class structure.

In general, both these surveys show a high upward mobility between two generations of Greek-Americans, improvement being achieved through the channel of education.

(iii) Two volumes of sociological surveys on Greek emigrants carried out by Dimitras (1971). These surveys provide data on inter-European socio-geographical mobility, are based on a small sample of 53 and the other on 86 emigrants. The studies concern demographic, occupational and 'geographic' characteristics of emigrants with an extension to psychological and sociological enquiries on emigration. The first volume concerns Greeks who are about to emigrate to France and Germany, and the second is a survey conducted during the emigrants' stay in France, Belgium and Germany. The main findings can be summed up as (a) emigration has a temporary character, (b) emigration is not seriously scheduled by authorities of both Greece and reception countries, (c) training and technical specialisation is secured for emigrants in reception countries, (d) emigrants' assimilation is a function of his duration of stay and his personal features and motivation, (e) economic benefits that emigration implies for emigrants and Greece are pronounced.

2.1.3 Works Dealing with Repatriation of Greek Emigrants

The most important literature regarding this topic commenced in the seventies when shortage of labour in particular skills occurred in Greece.

(i) Mitsos' (1969-70) study concerns the emigration and repatriation of Greeks and sets out a historical account of

emigration and repatriation since the beginning of this century. In a pilot survey 40 repatriated employees of Greek industry were studied focussing upon employees' socio-economic features before emigration, motives for migration and their adjustment in reception countries, and finally, motives for repatriation. Graduate repatriation implies positive consequences on the labour makret, but negative effects after a massive repatriatory movement are as well recognised.

(ii) Polyzos' works (1970) and (1971) examine the effects of the repatriation of Greek emigrants on the demographic composition of the Greek population, labour market, balance of payments and investments. In general, he insists that repatriated emigrants: (a) do not affect the 'demographic decline', since its roots are very complex, (b) they, as a rule, create problems in labour market, because they cannot be absorbed in certain occupations, where a shortage occurs but instead go to tertiary sector which has already satiated, (c) represent a loss of remittances which interact the rates of economic development since remittances greatly contribute to the equilibrium of the balance of payments and increase of investments.

(iii) Dimitras-Vlachos (1971) survey based on a large sample of 9,000 emigrants returning to Greece from Western Europe for vacations. The main prupose of this study was: (a) to find out under what conditions Greek emigrants to Western Europe would return and work in Greece, (b) to specify

desired occupations to practice in Greece after their previous working experience abroad. The more analytical study concerns: (a) patterns of earnings of Greek workers in West Germany by sex, age and skill, (b) emigrants' intended length of residence abroad and plans for an eventual permanent return to Greece, (c) plans for future employment in Greece and desired salary; self-employment and ownership or small businesses in the peripheral municipalities of the city of Athens predominate in male preferences, while females prefer to work in industry, (d) the process of adjustment of repatriated workers in the Greek environment as far as occupation, status and salary levels are concerned. Patterns between past (occupation before emigration), present (occupation in Western Europe), and future (desired occupation after repatriation) occupational orientation reveals major changes in all occupational groups. Differences exist between male and female emigrants, and in general, present occupation does not necessarily mean equal preference for the same occupation upon return to Greece. Finally, since migrants' experiences in Western Europe influenced their way of thinking and improved their qualifications for working they provide Greece with the opportunity for many structural rearrangements.

(iii) Kousis (1972) in three articles examines emigration from the employment viewpoint. He focuses his interest upon the character (temporariness) and the extent of migratory movements towards West Germany since 1955 and positive economic consequences of migration. He analyses the conditions which

will enable emigrants to repatriate, since shortage of labour was evident in Greece in many economic sectors during this period. In general he links emigration and repatriation with Greek economic development.

2.2 STUDIES DEALING WITH CAUSES AND EFFECTS OF EMIGRATION

Among the sociological enquiries on this topic are:

(i) A survey among representatives of various occupations and social strata such as politicians, economists, professors, industrialists etc, undertaken by the Journal "Aepoches" and carried out by Mavros (1965). The question to be answered summarise into two points: (a) what are the advantages and drawbacks of emigration for both individuals and the country?, and (b) how to increase the advantages. The conclusion drawn was that emigration solved the sharp problems of unemployment.

(ii) A series of articles written by Angelopoulos, Filias, Merlopoulos, Goutos, Vlachos, Christodoulidis and Karagiorgas first appeared in various journals, and were later gathered together in a monograph entitled "Essays on Greek Migration" (SSCA, 1967).

The authors focus their interest upon the causes and effects of emigration on Greek economy and society. Their views on the causes of emigration turn upon two points: the structure of the Greek economy on one hand, and that of the flourishing European countries (host countries) on the other. More

precisely, they are concerned with unemployment or under-employment in Greece since the post-war period, the uneven distribution of agricultural holdings, the low productive rate of the soil, the demographic pressure, and in general the economic stagnation, which in turn results in a low standard of living, and motivates workers to seek better conditions in the countries of reception (Western Europe, Australia, Canada). Reception countries in turn, because of a shortage of workers, secure permanent and constant employment, and migrants enjoy better rewards and social insurance.

In a second place, the migratory movement should be attributed to 'imitation' in the sense that new fashion and attraction exerted by the style of life in towns, motivate people, especially from the rural areas, to migrate. Furthermore, the financially disadvantaged people, and the majority of emigrants, should thus be characterised as usually achieving an improvement in their life in the new environment, and encourage their co-patriots to migrate.

The consequences of migration are regarded as either positive or negative. Reduction of unemployment, pure economic effects on the balance of payments after flow of migrants' wages, and use of the professional specialisation of those migrants who are going to return - provided that a specialisation is achieved - are among the main positive effects of migration in the short run.

In the long run, however, the effects of migration are negative because the depopulation of country, and especially the devastation of the rural areas, and the absence of the healthier and more active part of population, will result in demographic decline, which in turn creates social and economic problems in the volume and quality of the labour force. A shortage of workers in Greece during the 1970s had been foreseen as a result of emigration.

Negative effects of migration concerning social life and the psychology of emigrants should also not to be overlooked. Broken families is a common phenomenon among emigrants and harmful effects on children, their education and psychology, are more than evident. Difficulties, in addition, connected with their assimilation in the countries of reception and practical problems concerning the kind of jobs and payment increase emigrants' unfavourable position.

(iii) Case studies in seven provinces of Greece, carried out by Notaras, Filias, Goutos, Skoufis, Merlopoulos and Theodoras and published in the journal "New Economy" (1966:No. 4-5) concern the areas Evros, Drama, Florina, Imathia, Yannina, Lesvos and Laconia, from which emigrants are mainly recruited. In general, the economic structure of these areas, their demographic composition before and after vast emigration and the causes and effects of emigration at a local level are studied. The findings, turning on the economic reasons for emigrants, and eagerness for advancement, mainly coincide with those corresponding to the country as a whole, as these were described above.

(iv) Zolotas' (1966) study gives an emphasis on economic effects of emigration. It concerns international labour migration and economic development and examines the post-war pattern of emigration in terms of the amount of emigration (inter-year comparisons) and destination countries and especially its rapid expansion toward Western Europe. It summarises the benefits of emigration for the Greek economy, such as reducing unemployment and the inflows of emigrants' remittances which supplement the incomes of the economically weaker population groups, especially in the rural areas. On the other hand, it is emphasised that the demographic consequences (decrease of the growth rate of population) changes in the age structure and so on. Furthermore, it is stressed that, in the future, if emigration continues with the same fast rate, adverse effects on economic development and monetary equilibrium will appear.

(v) An article written by Terlexis (1976) concerns economic demographic and social effects of the vast emigration of scientific personnel on the socio-economic development of the country. A number of measures are proposed to decrease migratory movements of such emigrants and to create proper conditions for their repatriation, such as post-graduate courses, geographic redistribution of universities, planning of research policy and establishment of a central agency for scientific coordination.

2.3 EMIGRATION FROM A MARXIST APPROACH

An approach both sociological and economic has been recently achieved in the volume "Economic Development and Migration in Greece" (1974), which contains the papers from a relevant seminar in Paris. The main contributors are: Kavouriaris (1973), Nicolinakos (1973), Pagalos (1973) and Loukopoulos (1973). They basically examine the phenomenon of emigration within the Marxist framework of "exploiting and exploited". More analytically:

(i) Kavouriaris' study deals with the causes, role and operation of emigration in the context of the dependent character of the Greek economy. The structure of the Greek economy (dependence on the capitalistic countries which receive Greek emigrants), and the temporary solutions which emigration gives in unemployment - if any - and the balance of payments, maintain the dependence of Greece upon countries of reception which in turn restricts local development. In a Marxist approach, he ascribes causes of emigration in the "relative overpopulation" but "in a spurious form" in the sense of uneven distribution of population among branches of economic activities and areas. In general, emigration is "the result of development of the capitalistic productive networks". Therefore, the problem must be seen in terms of the economic, political and social links of Greece with capitalistic countries.

(ii) Nicolinakos' paper focuses upon the contradictions of capitalistic development of Greece, showing a shortage of

workers on the one hand, and emigration on the other. The shortage of labour at first sight is related to rather high rates of economic development, achieved in Greece during the sixties and to emigration.

He argues that under the more complex contemporary network of dependence of capitalistic countries, emigration developed into an autonomous mechanism, which should be proved harmful for migration countries. Under social processes in the capitalistic system, Greek emigrants are becoming the 'proletariats' for Western European countries, and foreign workers - mainly Africans - 'proletariats' for Greece.

(iii) Pagalos examines the phenomenon of exports of Greek workers to Western Europe, and import of Africans. He centres his analysis on the capitalistic mode of production which produces one 'centrum' and one or more 'peripheries'. Greece is a periphery for Western Europe, and tends to be a centrum for Africans.

But to what extent the international capitalistic market will 'allow' such changes is not clear. The general conclusion is that the extension and the quality of the Greek emigration towards Western Europe and the number and role of foreign workers in Greece are directly related to the social and economic situation of Greece in the capitalistic system. The conception that emigration rests upon 'full employment' and 'industrialisation' has been proved unrealistic as it leads to bottlenecks. The fact that Greece exports and imports labour

is a typical example. Moreover, export of Greeks and import of Africans must be seen in a wider scheme of social, political and cultural elements in relationship to powers in the so-called class struggle in Greece.

(iv) Loucopoulos' paper is concerned with the problem of 'acceptability' of emigrants in the countries of reception. He examines contemporary emigration in terms of developed and underdeveloped countries giving the label 'exploiting' for the former and 'exploited' to the latter, and analyses the role and content of emigrants' jobs in the capitalistic developed countries. The majority of emigrants being unskilled are employed in heavy and unhealthy jobs without prospects to get a specialisation and achieve an advancement. As European capitalism now enters a rather difficult period and the international competition increased the indications are for more exploitation of workers, especially emigrants.

2.4 MOBILITY PATTERNS IN NON-MIGRANTS

The only two works concerning mobility patterns irrespective of migration are:

(i) In Alexander's study (1964) a chapter is devoted to social mobility of Greek industrialists. The main findings of this study based on a survey among 522 industrial entrepreneurs are: (a) The formation of the industrial entrepreneurial group has been the outcome of a significant degree of social mobility. (b) Industrialists' movements

are examined in two stages: (1) comparisons between father's occupation and industrialists' activities before becoming industrialists, and (2) occupations between father's occupation and present-day industrialists in terms of their main preceding activity. The outcome is that more than half of the industrialists came from big merchants, professional men and business executives. Farmers made practically no contribution to the supply of industrialists. On the other hand, industrialists before entry into industry became engaged in a variety of economic-occupational activities, for instance, as professional men , merchants, business executives, craftsmen etc. (c) The direct effect of family background upon entry into industry was considered significant since half of the industrialists were assisted by their families and the remainder were self-made. (d) Cities having a population of 50,000 or over provided that origin of 30% of industrialists. It was noticeable also that 25% of industrialists were born abroad. (e) Industrialists' education showed that 44% are high school graduates and 35% had graduated from university level institutions, half of them in engineering, chemistry, and other technical fields and the remainder in business studies, economics and law.

(ii) Lambiri-Dimaki's (1974, Vol. II) survey "Towards A Sociology of Education" among 863 freshmen students of the University of Athens during the academic year 1962-63 is concerned with educational patterns. By comparing fathers' to sons'(students) educational attainment, the trends show:

(a) high upward mobility, as 40% of students have fathers with low (primary school or less) educational background, (b) female students come from higher educated families compared to male students, (c) the intragenerational mobility, studied by comparison of siblings, follows in general a pattern of similarity - the older brothers of students are more likely to have a university background education.

These patterns are studied from various socio-economic aspects. Thus geographic origin, insofar as urban and rural environment is concerned, favours students from urban areas. Males from rural areas predominate in comparison with females from the same environment. Family income affects student populations in the sense that more students are recruited from higher income levels than lower. However, comparing low income levels between two social groups, that is 'farmers' and 'industrial workers', farmers supply a higher proportion of the student population than workers.

Moreover, this study focuses on students' family background in terms of socio-economic characteristics and educational experiences resulting from a university environment, tradition and the educational system. Interrelations among these variables reveal inequalities of Greek higher education as far as student recruitment is concerned.

1. SOCIAL CHARACTERISTICS AND ECONOMIC FEATURES OF EMPLOYEES AND INDUSTRIES IN THE GREATER ATHENS AREA

Any analysis of social and labour mobility in the Greater Athens area should be set within a general framework of the social and economic features involving both employees and industries. Athens became the capital of Greece soon after the Revolution of Independence in 1833. In most nations a few regions or cities usually predominate and account for most of the social and economic activities and above all national capitals lead the way in aspects of economic and social development.

The Greater Athens area is a 'city-region', and from the beginning became the administrative, commercial and intellectual centre of the country. As Harvey and Ridell (1975:52) points out, the concentration of such features generated agglomeration and accelerated growth and the initiation of a hierarchy in professional and commercial groups.

Today, in spite of some measures taken to increase economic and administrative decentralisation, Athens contains most of the governmental and public services, universities and other graduate schools, social services and big companies. Cultural and social life flourish and the capital is in a highly privileged position in terms of development and living conditions compared to other regions. The standard of living in Athens is at a similar level to that of cities in Western Europe.

What are the causes and consequences of such a marked concentration? Broadly speaking they are: (a) more sources of energy and a better network of transportation facilities in Athens, and (b) given the absence of raw and indigenous materials, many branches of the manufacturing industry having to import such materials are established in this area.

The obvious effect has been to make Athens a focal point or destination for migrants from rural areas where unemployment, lower income and general hardship reinforce the process of urbanisation (Kayser, 1968:35).

I will sketch the socio-economic environment of the Greater Athens area within which my study of various types of mobility is set; in particular I will pay special attention to the nature of population and industrial structure.

1.1 Employees

According to the census of 1971, the Greater Athens area contains 28.9% of the total population of Greece and 54.4% of its urban population (NSSG, 1971:18, 23-24). Previous censuses have shown that Athens has experienced a rapid rate of growth since 1920, and it is estimated this trend will continue at least until 1985 (NCSR, 1973:36). The growth is caused by the natural increase of population and - but even more significantly - by the in-flows from provinces and by Greek nationals returning from abroad.

The patterns of migration since 1920 have changed "with time, space, level of development and even with individual's psychology and tastes" (Papageorgiou, 1973:50), but they can be classified into two broad categories. First, there was the great move of refugees following that catastrophe in Asia Minor in 1923, where 245,000 or 23% of the refugees settled in Greater Athens (NSSG, 1953:LXVI), and second, more recently, the internal migration mostly from rural areas.

This latter movement which is called geographic mobility is of special interest to the present investigation because, according to a pilot survey conducted in 1960 (NSSG, 1964:15), 56% of the inhabitants of the Greater Athens area were migrants, and a later survey (GPC, 1972:14) suggested that 70% of the population had come from overseas or outside Athens.

What are the motives for migration? Under and what circumstances are rural people willing to leave their native area, ready to face many problems in a new place of residence? From the contemporary literature regarding the internal or economic migrants, as Sandis calls them (Sandis, 1973:31), the most frequent reasons like better opportunity of employment in urban areas, higher income security and other financial benefits; second, social reasons like family, education and health needs and the facilities and attraction

of the urban way of life (Kosinski-Prothero, 1975:12).

Some empirical surveys concentrating solely upon the Greater Athens area shed light on the factors specifically associated with this area, though generalisations are hazardous because no systematic survey has yet been undertaken.

In a pilot survey in 1960 (NSSG, 1964:21), of the rural migrants, the better opportunities of employment and the expectation of higher income comprised the most significant reasons for migration.

Moustaka (1964:66) found "the desire for a better life and the search for work and for education" to be predominant. Sandis (1973:90), on the other hand, showed that the major reason for migration to the Greater Athens area was the presence there of relatives and kin willing to give temporary shelter. Economic migrants in the same survey also mentioned 'family reasons' and gave second place to 'occupational opportunities'. Though the results from these surveys and case studies do not absolutely coincide because they concentrated upon different aspects of internal migration, nevertheless they agree in pointing to occupational reasons as a major motive for migration.

The magnitude of internal migration and the reasons given for it, as well as the acceptance of the hypothesis that migration is selective of men who have the aspiration for advancement, both economically and socially (Blau-Duncan,

1967:256), make necessary the further study of their socio-economic features. But, because of the lack of relevant statistical data and information for migrants, the comparison of the total population of Greece to that of Athens in the demographic characteristics and social and economic features, only partly provide information required.

According to 1971 census (NSSG, 1973:1-26), the male population of Greece is 48% against 47% in the Greater Athens area. The age distribution of the population of Athens does not differ to that of the rest of Greece - averages are 33.67 and 33.45 respectively. In older ages (50 and above), a difference is more evident, but still not significant (25% are 50 and above years old in Athens, against 28% in all of Greece). Marital status is almost the same in both Greater Athens and Greece (about 48% 'married', 44% 'single', 6% 'widow(er)'). However, the 'divorced' category stands at 2% in Athens and 1% in the rest of Greece.

Obviously on these characteristics there are no differences between Athens and Greece as a whole, that is the population of Athens truly reflects that of Greece at large. In other words, this suggests that migrants do not possess a significantly different pattern in demographic characteristics in sex, age group composition and marital status. But the picture in socio-economic particulars is more favourable for the population of Athens. Thus the educational background is higher for people in Athens

compared to that of Greece as the table below shows:

	All Greece %	Athens %
- with higher education	2	6
- with secondary education	11	21
- with primary education	50	50
- not having finished primary education	34	21
- no declared educational level	3	2

As Athens provides better educational opportunities (there is a strong motive for inward migration) this easily explains why the number of people with secondary or higher education is twice as high in this area. An obvious consequence is a lower number of illiterates (7% for Athens against 11% for Greece).

The educational superiority of the population of Athens over the whole of Greece gives a rough indication of its occupational composition. For the economically active population (10 to 65 years old) according to NSSG definition, the occupational distribution is as follows:

	All Greece %	Athens %
- professional, technical workers	6	10
- administrative executives	-	?
- clerical and related work	7	16
- merchants and sales workers	7	11
- service workers	7	11
- farmers, loggers and related work	41	1
- craftsmen and labourers	30	44
- no decleared activity	2	5

In the categories of professional, administrative, clerical, merchants and service workers, those who require higher qualifications, compared to other occupations, the frequency in Athens is almost twice that in the rest of Greece. Generally the occupational structure is what one would expect in an urban area.

The difference in occupational structure is also reflected in a comparison of the income distributions in Athens and the rest of Greece. Income derived from the manufacturing sector, because of higher productivity, as well as income in administrative and professional occupations, is at a higher level than in the agricultural sector. On the other hand, inequalities in educational background and occupational position (two fundamental dimensions that determine an individual's economic situation) between Athens and the other regions is marked; income per capita in Athens is 40 times higher than the national average (NAD, 1968:30).

Income per capita correlates positively with expenditures. A 'Household Expenditure Survey' demonstrated that the consumption pattern in Athens, both for consumer and durable goods, deviates from that of the rest of Greece both in its composition and size (NSSG, 1975c:15-26). So a greater proportion of the families' income in Athens is spent on goods or services for which there is a high elasticity of demand such as education and recreation which absorb 7.8% of total expenditures of Athenians against 4% of those living in rural areas. Such expenditures could be taken as the most appropriate index of the standard of living. Furthermore, income inequalities among various regions and groups reflect the social conditions under which certain classes of the population live and work.

1.2 Industries

It is obvious that there is a relationship between concentration of population and industrial employment. As Webber (1972:87) points out "the initial industries in the region and their labour force provide a marked for market-oriented industries which augment the local market which in turn attracts more industries and so on". According to the industrial census in 1963, 53.6% of the total industrial establishments and 58.4% of the total industrial employment were concentrated in the Greater Athens area (NSSG, 1965:6). Though the measures to decentralise industry - certain tax and other facilities are granted to industrial units which are planning to set up in the regions outside Athens

(OECD, 1968:13) - altered the picture in recent years and the corresponding figures for 1970 (NSSGa, 1975:38, 122) being 32% for establishments and 45% for employees, Athens continues to have a predominant position.

What are the causes of this industrial concentration?
What are the characteristics of industries so located?
What is the composition of the industrial employment?
These are clearly crucial questions.

1.2.1 Causes of Concentration of Industry in Athens Though it is difficult to separate causes and effects when looking at population movement and geographical concentration of industry, some factors can be emphasised as probable explanatory variables of the level of industrial centralisation.

(a) The market plays a fundamental role in the decision-making concerning of the location of industry. The large size of market in Athens had attracted industrialists to this area from early times. But it is not only a matter of size - an attractive factor for industrial location. The increasing income of its inhabitants secures higher family expenditures on consumer and industrial goods, so the dimensions of the market are continuously increased (Coutsoumaris, 1963:133-135).

(b) There are no natural sources of energy and a great deal of raw materials (primary goods), especially for the

heavy industry, are imported. This, in relationship to the poor system of inland transportation, and the favourable location of Athens (near to Piraeus harbour) that is well situated to remove goods, facilitated the industrial concentration.

(c) The extreme centralisation of administrative governmental agencies, banking and other services, and some other external economies (i.e. cheaper energy) increased the centripetal industrial movement.

(d) The lack of industrial tradition - until 1920 Greece was a small rural commercial country (Zolotas, 1964:21, 37) - the main industrial expansion commenced after the Second World War and for heavy industry in the late 50s; this kept most of the Greek industries under a centralised management and a personal influence of industrialists (Alexander, 1964:112). As a result the location of industry was greatly determined by the place of residence of entrepreneurs. Obviously Athens, with its higher standard of living and better opportunities of social advancement, was highly likely to be chosen as the residential area for such a class of people.

(e) Executives and other specialised personnel and skilled workers finding Athens, for economic and social reasons, more attractive are not easily attracted out of this area (Stratoudakis, 1967:86). 'Management immobility' is an important factor associated with industrial concentration

in Athens, especially when companies demand highly specialised labour.

1.2.2 The Characteristics of Industry The most remarkable characteristics of Greek industry is the large number of small units - from about 120,000 manufacturing units only about 6,000 employ 10 or more persons and there are only about 2,000 units with 30 or more employees.

The main causes of this small average size of industrial units are the small local market in relationship to low exports and the lack of industrial tradition. Many attempts have been undertaken to amalgamate small firms of the same industrial branches and in the same geographical areas, into bigger, technologically advanced companies with higher productivity, but few such amalgamations have been realised. (1)

If we consider establishments of ten or more employees from the point of view of their size and composition of manufacturing branches the table below shows that:

(a) 54% of the total number of establishments of this category are located in the Greater Athens area. From the twenty manufacturing branches, 13 concentrate more than 54% (the average percentage of concentration) of their establishments in this area. More precisely, branches with the highest concentration of establishments in Athens are: 30 (rubber and plastic products), and 37 (electrical machinery: 83%),

(1) See Greek Productivity Centre: Technical Information Service.

Table 1 Distribution of Establishments (of 10 and more Employees) and Employees of such Establishments Among Manufacturing Branches

Industry Branches	ESTABLISHMENTS			EMPLOYMENT				
				TOTAL GREECE		ATHENS		
	Total Greece	Athens	% Athens Total Greece	No of Employees	Average per Establishment	No of Employees	Average per Establishment	% Athens Total Greece
20	1,027	343	33	36,944	36	12,142	35	33
21	156	47	30	6,857	44	3,163	67	46
22	134	13	10	9,906	74	3,405	262	34
23	769	425	55	44,496	58	25,795	61	58
24	617	429	69	16,899	27	12,030	28	71
25	284	153	54	7,267	26	2,938	19	40
26	251	153	61	5,859	23	3,941	26	67
27	114	81	71	6,700	59	3,440	42	51
28	230	186	81	8,226	36	7,242	40	88
29	209	53	25	3,877	19	1,182	22	30
30	198	164	83	8,391	42	6,525	40	78
31	196	135	69	14,395	73	9,152	68	63
32	36	20	56	2,106	58	817	41	39
33	506	177	35	19,239	38	6,643	37	34
34	32	17	53	6,596	206	1,008	59	15
35	432	289	67	16,674	39	10,782	37	65
36	320	190	59	9,007	28	5,483	29	61
37	222	185	83	14,076	63	11,256	61	80
38	211	157	72	17,222	82	13,837	92	80
39	95	74	78	2,745	29	2,261	31	82
TOTAL	6,039	3,285	54	257,482	43	143,042	43	56

Source: Annual Industrial Survey for the Year 1970, NSSG, 1975.

Industrial Branches: see Appendix B2.

28 (printing and publishing: 81%), 39 (miscellaneous: 78%), 38 (transport-equipment: 72%), 27 (manufacture of paper: 71%). Heavy industry, whose products are destined for the national economy, and most of the raw material importers are located in Athens. Conversely, consumer goods industries (food, tobacco, beverage industries) are located close to sources of raw materials, since the cost of raw materials is higher than the cost of the other factors of production. This is the reason why these industries show a lower degree of geographical concentration - between 10% and 33% are in Athens.

(b) The size of these establishments (the criterion being the number of employees) is the same in Athens with total Greece (average number of employees is 43). The most remarkable discrepancy is in the tobacco industry, although it has the lowest degree of geographical concentration (only 10% in Athens) it embraces - on average - the largest establishments (262 employees per establishment in Athens as against 74 of total Greece).

Assuming that the size plays a fundamental role in the productivity of industry, because as a rule, bigger companies can be supplied with modern mechanical equipment, higher qualified personnel and can apply new managerial techniques, i.e. means to increase productivity, then industries in Athens are in a better competitive position compared to those in the rest of Greece.

Concerning production, 45% of gross value is derived from establishments of ten and more employees. So the general pattern of the contribution of the Athens area to the manufacturing sector is 54% in establishments, 56% in employment and 45% in production. It is remarkable that in this 'city-region' more than half of all activities of industry is concentrated.

1.2.3 Composition of the Industrial Employment The industrial sector absorbs the majority of employees in urban areas. According to the 1971 census, of those economically active in Athens, 29% were employed in the manufacturing sector, 21% in services, 16% in commerce, and the rest - 34% - in other sectors.

The structure of employment, that is its grouping into salaried, wage earners and working proprietors and non-paid family members, the educational background and specialisation of employees and their rewards, serves to give a general picture of industrial employment.

(a) Structure in the Athens Area. 19% were salaried employees, 78% wage earners and 3% working proprietors, including non-paid family members. There are some discrepancies with the corresponding structure of employment in the rest of Greece, but they are not significant. (The percentages are respectively 16%, 79% and 5%.)

The structure of industrial employment follows a clear pattern: the larger the establishment, the greater is the ratio of salaried employees. It is obvious that in big companies many administrative posts are created, while very often capital - through the investments in modern and automatic mechanical equipment - substitutes manpower, i.e. wage-earning employees. On the other hand, the category of working proprietors and non-paid family members is more common in small family companies which are distributed country-wide.

(b) The educational background and specialisation of industrial employees is low. The great majority (69%) have only primary education, 17.8% have not completed their primary education, and 3.8% are illiterates. Consequently only 9.4% of these have experienced secondary or higher education. Of these only 2.3% have technical skills and 1.7% a university background. The picture is quite different compared to that of the rest of the population of Athens (27% have secondary or higher educational background), largely because services, which can absorb 21% of the total employment, employ higher qualified personnel.

(c) The level and the structure of rewards id determined by many factors, economic and otherwise - some of them are independent or interdependent. The central factor rests with the supply for and demand of labour and their usual imbalance. In Greek industry, especially recently, unemployment or underemployment

in some occupations and a scarcity of labour in others produced an imbalance in the labour market (F G I, 1974:138).

Generally speaking, rewards in industry are lower than those in the service sector (public services, semi-governmental organisations, banks etc). For 1970, see F G I (1974:87), it was found that, taking the average rewards for salaried and wage-earning employees as 100, the corresponding index value in industry was 45.6 and in banks between 81.3 and 148.4. The main reasons for this discrepancy are the lower educational background and specialisation of industrial employees compared to that of employees in services and the specific conditions in the labour market.

Differences in rewards are not only observed between industry and other sectors of the economy, but also between industry in Athens and the rest of Greece; and even in Athens among various industrial branches and companies of the same branch. In the Athens area rewards are higher among companies with 10-29 and 50-99 employees, and lower for bigger companies (F G I , 1974:123-126). The obvious explanation is that the composition of employment (by sex, age, qualifications, specialisation) in smaller companies is different from that in bigger ones. For instance, in some branches, i.e. manufacturing of footwear, the majority of employees are women who receive lower rewards, which can in turn produce a discrepancy of the averages.

From the above brief socio-economic analysis of the Greater Athens area, a general conclusion can be drawn: Athens with its outstanding characteristics contributes disproportionately to the industrial situation of the country.

2. SAMPLE DESIGN AND INTERVIEWING

2.1 Sample Design

Most of the statistical studies on social and labour mobility have been based on the 'household' (among other studies, see: Lipset-Bendix, 1959:150-151, Svalastoga, 1959:26, Blau-Duncan, 1967:13).

In the survey reported here a two-stage sampling design has been adopted: a stratified random sample of industrial establishments and a random sample of employees within establishments. The main reasons for this choice were as follows:

(i) The aims of the survey: the study of patterns, causes and consequences of mobility comprise the objectives of this survey, and it has been argued that variables related to establishments are important factors in influencing mobility patterns in Greece. Therefore, an establishment's sample based on size and industrial type was thought to be appropriate.

(ii) The sample size in relationship to the economic means which were available by the investigator. If 'household' had been chosen as the base (frame) for the survey, a one in four sample (1) would have to have been taken to locate one thousand employees in the manufacturing sector.

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(1) 26% of the economically active population in the Greater Athens area is employed in the manufacturing sector in 1971 (NSSG Census, 1973, Vol. II:26).

2.1.1 Population The population of the survey comprised all employees in the manufacturing establishments in the Greater Athens area, employing 30 or more persons. This choice was thought appropriate because, apart from the lower cost than a national survey, the Greater Athens area accounts for 45% of the manufacturing establishments, employing 30 persons or more, and 65% of the total industrial employees of the country. Thus the findings of the survey can be considered to give some indication of the picture of mobility in Greece as a whole.

2.1.2 Method of Sampling

2.1.2.1 Stratification The sample was drawn into two stages. First, the sample of establishments, and secondly, the sample of employees within the selected establishments.

The sample of establishments was stratified: first, according to 'homogeneity' of products (Koutsoyianni-Kokova, 1964:200) (2). On the basis of the ISIC (International Standard Industrial Classfication, see Appendix B2) classification of branches, the twenty-two digit manufacturing branches were ordered into five groups as follows:

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(2) Another possible criterion based upon the growth rate of branches for the previous few years would produce a dichotomous classification of branches with accelerating growth rates (23, 31, 34, 33) versus the rest. However, though this classification could be used in the analysis of factors influencing labour mobility, it would not produce a wide range of employees' occupations, and was hence rejected as a stratifying variable.

Groups	Branches
I	20, 21, 22
II	23, 24, 29
III	25, 26, 27, 28
IV	30, 31, 32, 39
V	33, 34, 35, 36, 37, 38

Secondly, the establishments of each group were subdivided to form two strata (categories): (i) establishments containing 30-49 employees, and (ii) establishments containing 50 or more employees. The socio-economic environment, conditions of work, prestige and status and the type of management considerably differ between two strata (Coutsoumaris, 1963: 32-79).

Using these two criteria, ten strata (5 x 2) can be defined. Based on the latest industrial census (1971), the distribution of population of establishments and employees among these ten strata is displayed in Table 2 below.

2.1.2.2 Selection of the Sample Cost criteria dictated the maximum sample size and it was decided that the survey could be carried out in 100 establishments and cover about 1000 employees within the selected establishments. The selection procedure for the sample was made as follows:

Table 2 Distribution of Establishments and Employees of the Greater Athens Area By Groups of Industrial Branches and Size of Employment

Groups of Branches	Size of Employment				TOTAL	
	30-49 persons		50 or more persons			
	Establishment	Employees	Establishment	Employees	Establishment	Employees
I	55	2095	58	12133	113	14228
II	101	3989	148	24516	249	28505
III	50	1907	54	8431	104	10338
IV	64	2726	72	11364	136	14072
V	141	5720	143	30705	284	36425
TOTAL	411	16437	475	87131	886	103568

Source: NSSG (unpublished data: Division of Industry)

Stage One (Selection of Establishments)

Designating as:

χ : the total number of employees in ten strata, that is $\chi = 103,568$.

χ_h : employees in the h^{th} stratum ($= 1,2...10$).

χ_{h_i} : employees in the i^{th} establishment of the h^{th} stratum.

η : the total sample size of establishments.

η_h : the sample size of establishments in the h^{th} stratum.

The sample size of establishments selected in the h^{th} stratum was proportional to the number of employees (χ_h) in the stratum, that is:

$$\eta_h = \eta \frac{\chi_h}{\chi} \qquad (\text{where } \sum_h \eta_h = \eta = 100). \qquad (1)$$

The establishments in the h^{th} stratum were chosen with a probability proportional to their number of employees. So, for example, the i^{th} establishment of the h^{th} stratum was selected with probability:

$$\rho_{hi} = \frac{\chi_{hi}}{\chi_h} \qquad (\text{where } i = 1,2,...\eta_h) \qquad (2)$$

Stage Two (Selection of Employees)

A simple random sample was selected from each sampled establishment, so that all the employees had the same probability of being chosen. This proability is equal

to the general sampling fraction, say: f (f = n/N).

Setting the sample of employees of the selected establishments be η_{hi}, its size was defined so that self-weighting occurred, as explained below.

More precisely if Y_{hij} is a such characteristic (quantitative), associated with the j^{th} employee of the hi^{th} establishment, the sum of this characteristic over all employees is estimated by:

$$\hat{Y} = \sum_{h=1}^{10} \frac{1}{\eta_h} \sum_{i=1}^{\eta_h} \frac{1}{\rho_{hi}} \frac{\chi_{hi}}{\eta_{hi}} \sum_{j=1}^{\eta_{hi}} Y_{hij} \qquad (3)$$

Furthermore, if f is the general sampling fraction and the sample of employees of an establishment is defined so that:

$$\frac{1}{\eta_h} \cdot \frac{1}{\rho_{hi}} \cdot \frac{\chi_{hi}}{\eta_{hi}} = \frac{1}{f} \qquad (4)$$

Then

$$\hat{Y} = \frac{1}{f} \cdot \sum_h \sum_i \sum_j Y_{hij} \qquad (5)$$

This method has practical merits, since the results of tne sampled establishments can be aggregated in a simple fashion without the necessity of a weighting procedure (Cochran, 1953 (1963):89; Svalastoga, 1959:28; Raj, 1968:67).

The relationship (4) gives:

$$\eta_{hi} = f \frac{1}{\eta_h} \cdot \frac{1}{\rho_{hi}} \cdot \chi_{hi}$$

and taking into consideration relationships (1) and (2) this yields:

$$\eta_{hi} = f \frac{1}{\eta} \cdot \frac{\chi}{\chi_h} \cdot \frac{\chi_h}{\chi_{hi}} \quad \chi_{hi} = \frac{f \cdot \chi}{\eta}$$

that is, η_{hi} is constant. This in raw numbers indicates that in order to form the predefined sample of 1000 employees, ten persons should be taken from each of the 100 establishments.

2.1.2.3 Sample Structure Applying the procedure described the distribution of establishments and employees amongst the ten strata and samples response are as in Table 3 below.

The selection of establishments included in the sample, was based on the list which had been compiled from ICAP directory of companies and the State Newspaper Volume III. The selection of employees in each establishment relied upon payroll or other employees' lists. The drawing of establishments and employees followed the 'random number' procedure.

To evaluate the sampling procedure, data concerning the age of employees of this sample are compared to corresponding data of employees in the industrial sector as they derived from 1971 census. The comparison concerns percentages of the sample by age to corresponding percentages of Greece and the

Table 3 Allocation of Sample of Establishments and Employees Amongst Ten Strata (a) Selected Sample, (b) Response Sample

GROUPS	SIZE OF EMPLOYMENT								TOTAL			
	Establishment		Employees		Establishment		Employees		Establishment		Employees	
	S	R	S	R	S	R	S	R	S	R	S	R
I	2	2	20	20	12	12	120	130	14	14	140	150
II	4	4	40	40	25	24	250	232	29	28	290	272
III	2	2	20	20	8	7	80	75	10	9	100	95
IV	3	3	30	29	11	11	110	114	14	14	140	143
V	6	6	60	60	31	29	310	305	37	35	370	364
TOTAL	17	17	170	169	87	83	870	856	104	100	1040	1025

Key: S = Selected
R = Responses

Greater Athens area:

Table 4 Comparison of Age Groups Between Population and Sample

Groups of Ages	Employees in Industrial Sector		
	Greece Total %	Athens %	Sample %
15-19	14	11	11
20-29	25	25	27
30-44	35	39	32
45-64	25	24	29

As the table shows there are some fluctuations of sample percentages from population data especially in oldest cohorts (30-64). But, in general, one can say that sample gives a satisfactory approximation of industrial population and consequently the results of this survey, to a large extent, will reflect the population.

2.2 Interviewing

The statistical information about mobility and other characteristics of the employees and establishments of the manufacturing sector was collected by means of questionnaires (see Appendix A1, A2).

Two types of questionnaires were designed. The first, concerning establishments, included general information about

their characteristics such as size, location, year of establishment, mechanical equipment, rewards and pension schemes, and management style. The General Director of the establishments or directors of Personnel or Accounting Divisions were interviewed.

The second questionnaire administered to employees was designed to elicit information about work, mobility, motives, attitudes towards work and personal and socio-economic features. Both directors and employees, mainly on practical grounds, were interviewed within the establishment, taking care, however, to secure appropriate conditions, such as a special room for interviewing, free selection of sample employees etc.

To test the applicability and the validity of the questionnaires a pilot survey was carried out in three companies with twenty-six of their employees.

Four interviewers and the author carried out interviewing over a period of three months (September to November 1974). All interviewers had been professionally trained at KEBA (small-scale industry organisation). To secure reliability a replication of sixty-seven (67) interviews of employees took place during the whole period of the fieldwork. The continuing control of interviewing accounted for the remarkably small number of unsatisfactory completed questionnaires (eight cases) which were finally excluded from the sample.

Standard replacement procedures were followed for both establishments and employees. However, only nine establishments refused access giving reasons such as temporary production difficulties, inconveniences for interviewing or unwillingness to cooperate. On the other hand, 86 employees had to be replaced mainly because they were either too busy or found to be outside the establishment during the period of interviewing. After replacement the response proportions for establishments and employees increased to around 98%.

The majority of studies of mobility concern comparisons between generations. This is mainly conceived of as a comparison between fathers and respondents in terms of some dimensions, such as occupation, education, geographic area and so forth. Occupational mobility in particular is considered most important, since it influences and is related to the stratification system.

As described in the first chapter, both inter- and intra-generational comparisons present a number of problems, which make exacting measurement hard. In practice, however, many approaches such as stochastic processes models or multivariate techniques have been developed to partly overcoming methodological deficiencies and giving a gross indication of changes over time and space.

Intergenerational movements concerning education and occupation from father to respondent are described in this study by simple 'counting' (Boudon, 1973:35) indices. Focussing our interest upon such measures was mainly provoked by the fact that occupational classification gives rectangular tables (matrices) which are relatively easy to analyse.

Most of the indices have traditionally aimed at measuring occupational mobility. Since, however, most features of occupational movements are also found in educational mobility tables, the same family of measures can be used here.

There are many indices of mobility each based on various assumptions. But since they serve different purposes to choose an appropriate index is as Boudon stated (1973:39) "not a purely logical and mathematical (problem). It is also, one might say, a semantic one". Thus in this study indices aiming at distinguishing between pure and structural mobility as components of total mobility (Yasuda Index) and Indices meaning the social distance that an individual travels to arrive at his present position from a previous one (Mobility Ratios and Bartholomew Index) are mainly used.

In this chapter the following processes are examined:
(a) educational trends from father to respondent,
(b) occupational mobility and (c) the relationship between educational and occupational mobility.

1. TRENDS IN EDUCATION

1.1 General Patterns

Many previous works in mobility (Glass, 1954:107, Lipset-Bendix, 1959:91-101, Blau-Duncan, 1967:152-161, Duncan et al, 1972:41, Sewell-Hauser, 1975:25-88, among others) have shown that education plays a significant role in occupational achievement. Therefore, an analytical study of educational mobility patterns will help in understanding occupational status, and furthermore, social structure.

For the purposes of this study educational attainment has been designated in terms of educational levels or categories as follows:

1. No school
2. 3rd Grade Primary School
3. Completed Primary School
4. 3rd Grade Secondary School
5. Completed Secondary School
6. Technical Colleges
7. High Technical Colleges
8. Universities

The educational levels of primary and secondary education (categories 2-5) form an interval scale in terms of years of formal schooling. A discrepancy, however, is shown between level of education and years of schooling in technical, high technical colleges, and to some extent, in universities, since, in these categories, the years of schooling vary considerably according to specialisation and prerequisites for entry.

This classification, in addition, provides an ordering of educational levels in the sense that category one designates the lowest level and the category eight the highest level in terms of educational 'prestige'. An ambiguity is present, however, in the category 'technical colleges' since some of these earn a higher reputation than the 'completed secondary

education' category, others are at a similar level, and in a few cases some are in a lower status (1). In this study it was assumed that technical colleges are at the same or at a higher level than secondary education.

Educational trends will be studied here from various viewpoints. Simple movements as they derive from mobility tables designated either as 'actual mobility from father to respondent' or 'inflow and outflow percentages' obviously give a picture and indicate the extent of mobility. The direction of movements (up-down or immobility) and their character, that is structural or pure mobility, are a main concern. Finally, the 'distance' moved is of special interest (2). Moreover, an analysis concerning patterns in terms of respondents' features such as sex, age, and geographic origin, will shed a light in an evaluation of educational trends.

Table 5 displays actual educational mobility from father to respondent. As is seen the 'completed primary education' category ranks first in both generations. However, fathers' and respondents' distributions do differ decisively, showing that respondents in general receive a better education than

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(1) In technical colleges either graduates of primary education or students attending 3 or 4 years in secondary education can be admitted. Duration of studies varies from 3-5 years according to specialisation and level. In high technical colleges requirements are either completed or at least five years secondary education.

(2) Definitions of these measures will be introduced as they occur in succeeding parts of this chapter.

their fathers. A more precise picture of respondents' educational attainment compared with their fathers, however, is given by outflow and inflow percentages.

Outflow - Inflow Mobility Tables

The outflow percentages (Table 6) present the educational distribution of respondents, born of fathers in each educational category. As can be seen, the first three educational categories of fathers, to a large extent, provide a 'completed primary education' level for their children (the percentages vary from 33% to 45%). Apparently, the compulsory character of the level of education (since 1924) accounts for the concentration of respondents in this category. However, it should also be noted that as many as 26% of the illiterate fathers provided for their children an education above the compulsory level. Therefore, in this case, upward educational movement is strong.

At the other extreme of this table are fathers with a university education. But only 20% of such fathers have children with a similar educational level, the greater proportion (33%) being in the 'completed secondary education' category. Thus the trend in this level can be considered as a downward one.

Nevertheless, a careful examination suggests that conditions for respondents to succeed in achieving a better education, or the same level of education, when their fathers are illiterate, and when their fathers have a university background, are not similar in these two extreme cases.

TABLE 5 Actual Educational Mobility from Fathers to Respondents (Whole Sample)

Father's Education	Respondent's Education								All Educational Levels
	1	2	3	4	5	6	7	8	
1 No school	13	33	56	13	6	15	-	2	138
2 3rd grade primary school	6	27	88	22	15	25	7	7	197
3 Completed primary school	19	29	143	47	61	72	45	15	431
4 3rd grade secondary school	2	3	22	14	22	14	12	10	99
5 Completed secondary school	-	1	9	9	15	12	8	19	73
6 Technical colleges	-	-	2	-	1	3	1	1	8
7 High technical colleges	3	10	5	7	4	7	1	1	38
8 Universities	-	1	3	3	10	3	4	6	30
All Educational Levels	43	104	328	115	134	151	78	61	1014

TABLE 6 Outflows Percentages from Father's Educational Attainment to Respondent (Whole Sample)

Father's Education	Respondent's Education								All Educational Levels
	1	2	3	4	5	6	7	8	
1 No school	9.4	23.9	40.6	9.4	4.3*	10.9	–	1.4*	100.0
2 3rd grade primary school	3.0*	13.6	44.7	11.2	7.6	12.7*	3.6	3.6*	100.0
3 Completed primary school	4.4	6.7	33.3	10.9	14.1	16.7	10.4	3.5	100.0
4 3rd grade secondary school	2.0*	3.0*	22.2	14.2	22.2	14.2	12.1	10.1	100.0
5 Completed secondary school	–	1.4	12.3*	12.3*	20.6	16.5	10.9*	26.0	100.0
6 Technical colleges	–	–	25.0*	–	12.5*	37.5*	12.5*	12.5*	100.0
7 High technical colleges	7.9	26.4	13.2*	18.4*	10.5*	18.4*	2.6*	2.6*	100.0
8 Universities	–	3.4*	10.0*	10.0*	33.3*	10.0*	13.3*	20.0*	100.0

* Frequencies < 1.0

TABLE 7 Inflow Percentages from Father's Educational Attainment to Respondent (Whole Sample)

Father's Education	Respondent's Education							
	1	2	3	4	5	6	7	8
1 No school	30.1	31.7	17.1	11.3	4.5	9.9	–	3.3*
2 3rd grade primary school	14.0*	26.0	26.8	19.1	11.2	16.6	9.0*	11.5*
3 Completed primary school	44.2	27.9	43.6	40.9	45.5	47.7	57.7	24.6
4 3rd grade secondary school	4.7*	2.9*	6.7	12.2	16.4	9.3	15.4	16.4
5 Completed secondary school	–	.9*	2.8*	7.8*	11.2	7.9	10.3*	31.2
6 Technical colleges	–	–	.6*	–	.7*	2.0*	1.3*	1.6*
7 High technical colleges	7.0*	9.6	1.5*	6.1*	3.0*	4.6*	1.3*	1.6*
8 Universities	–	.9*	.9*	2.6*	7.5	2.0*	5.0*	9.8*
All Educational Levels	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Frequencies <10

As can easily be seen, in the case of respondents who have illiterate fathers, the 'distance' that they have to travel in order to arrive at a better educational level (upward movement), than their fathers, is a single scale interval. Conversely, in the case of respondents who have fathers with university background, the 'distance' to arrive at the same educational (inheritance) is seven scale intervals, which in turn suggests that since 'distance' is greater in the former case, respondents will travel it with more difficulties.

If it is assumed that respondents have a common starting point in their education, say, the lowest educational level - 'illiterates', then the probability that underlies respondents' travel depends on the 'distance' between this starting point and the certain educational category that the individual arrives at. In general, the shorter the distance the greater the probability of attaining it.

Many studies, however, have shown that a respondent's educational attainment process strongly depends upon his family context and environmental conditions. These, furthermore, influence his intelligence and aspirations (Sewell-Shah, 1967, 1968a, 1968b; Sewell, 1971; Porter, 1974; Wilson-Porter, 1975). Parental status (education and occupation) is usually considered to be a 'baseline' in intergenerational comparisons. But since the starting point of respondents' educational process varies according to parent status - this implies differentiation in educational opportunities - the evaluation of 'distance' travelled by respondents to arrive

at their own educational category becomes a complex subject.

The inflow percentages (Table 7) which demonstrate the educational origins of respondents, presently in a given educational category, demonstrate a somewhat different aspect of the same topic.

Respondents with high levels of education (universities, high technical colleges) are mainly recruited (39.4% and 66.7% respectively) from fathers classified in the first three categories, that is illiterates to completed primary education. Therefore, despite the limitations imposed on them by their origin a number of such respondents aspire to and achieve higher educational levels (3).

In technical educational levels upward mobility is impressive, since 22% of respondents against 4% of their fathers, received either a technical or high technical college education. Economic development, especially after the sixties when a rapid rate of growth started in the industrial sector, created demands for particular kinds of performance, and, as Collins (1971:1905) noted, skill requirements of jobs change with industrialisation and this concerns also the content of school

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(3) Lambiri-Dimaki (1974:Vol.II:100) found that 11% of freshmen students of Athens University originate from the lower class (peasants and industrial workers), 35% from middle class, and 24% from the upper class. Despite the fact that classes have been empirically and arbitrarily defined, and thus the corresponding population to compare these percentages is unknown, they give an indication of these lower class people aspiring a university education.

experiences. The increased demand, on the one hand, and the scarcity of skilled personnel, due to low technical education, on the other, have resulted in relatively high rewards. Therefore, people from lower educational, and more probably low economic strata, have found in technical education an opportunity for economic and social advancement.

Mobility Indices

Up to now we have described educational trends as they derive from the basic mobility tables. However, mobility movements can be studied in various ways and enable us to answer questions such as "what is the extent of mobility?", "in which direction is it driven?" or "what is its character?". A number of summary mobility measures can provide answers to these questions.

There are several ways in which we can arrive at an overall measure of mobility. 'Gross mobility' defined as the simple proportion of respondents located in a different category from their fathers' is 78%, splitting into 62% upward and 16% downward movements (Table 8).

Yasuda's Index also gives an overall measure of mobility (4)

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(4) Yasuda's Mobility Index is given by the formula:

$$Y_M = 1 - \frac{\Sigma n_{ii} - \Sigma (n_{i.} \, n_{.i} / N)}{\Sigma (\text{Minim } n_{i.}, n_{.i} - \Sigma (n_{i.} \, n_{.i} / N)}$$

where: n_{ii} = diagonal cells
$n_{i.}$ = total rows (fathers)
$n_{.i}$ = total columns (respondents).

Structural Mobility = $\Sigma n_{i.} - \Sigma \min (n_{i.}, n_{.i})$

Pure Mobility = $\Sigma \min (n_{i.}, n_{.i}) - \Sigma n_{ii}$

TABLE 8 Descriptive Summary Mobility Measures: Educational Attainment From Father to Respondent

MOBILITY MEASURES	COHORTS					SEX		GEOGRAPHIC ORIGIN		TOTAL SAMPLE
	15-24	25-34	35-44	45-54	55-64	Males	Females	Urban Areas	Rural Areas	
Immobility	.20	.21	.21	.27	.23	.18	.28	.21	.23	.22
Gross Mobility	.80	.79	.79	.73	.77	.82	.72	.79	.77	.78
Upward Mobility	.73	.70	.56	.51	.49	.68	.50	.64	.59	.62
Downward Mobility	.07	.09	.23	.22	.28	.13	.21	.15	.18	.16
Structural Mobility	.45	.40	.30	.19	.20	.36	.18	.31	.27	.29
Pure Mobility	.35	.39	.49	.54	.57	.46	.53	.48	.50	.49
Yasuda's Index (Overall Mobility)	.98	.92	.93	.93	.94	.96	.92	.99	.99	.94
Bartholomew's Index (Average Distance)	1.93	2.03	1.84	1.40	1.78	2.06	1.37	1.94	1.67	1.82

For definition of Indices: see
Gross Mobility: p87.
Structural-Pure Mobility: p19, 89.
Yasuda's Index: p17, 19, 87.
Bartholomew's Index: p21, 90.

based on the difference between the maximum and the minimum number of mobiles determined by the marginals. It is considered more satisfactory than gross mobility from a conceptual point of view (Boudon, 1973:39). According to this Index overall mobility rises to 95%. Thus both measures suggest a remarkably high mobility, particularly in an upward direction.

Nevertheless, mobility movements can be further studied as far as their character is concerned and in particular the distinction between pure and structural mobility can help us in understanding the relationship between occupational, and more general, social structural and educational mobility.

The amount of mobility due to personal characteristics of respondents to aspire to as much education as possible is considered as 'pure mobility'. On the other hand, the part of mobility that is ascribed to changes in occupational and social structure of society is defined as 'structural mobility'. Alternatively, this movement can be seen from the point of view of the 'needs' that society has for personnel of all educational categories in the sense that educational requirements of occupations generally speaking have increased either because the number of occupations of high skill have increased or because the same occupations have been upgraded in skill requirements. These structural changes are more profound when country is in the process of industrialisation (Collins, 1971:1005).

Table 8 shows that structural factors interpreted in terms of the process of technological progress and economic development absorbs the greater part (57%) of total mobility, leaving the rest (21%) of mobility to other factors, such as respondents' eagerness for advancement.

A somehwat different aspect of mobility is revealed if we consider the '<u>distance</u>' that the respondent has moved from his father's educational origin to arrive at his own educational category. Apparently many factors play a crucial role here (see Chapter IV: Occupational Achievement: An Explanation), but in respect of education, what is interesting is the 'average' number of educational categories that respondents travelled to arrive at the present educational level. Bartholomew's Index (5) which measures this 'average distance' - travelled by respondents to arrive at their own educational category - was found to be 1.82 (Table 8.) This suggests that respondents are almost two full educational steps away from their fathers' educational level.

As would be expected from such an 'average distance' many distortions occur. Thus in an analytical measurement of

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(5) Bartholomew's Index is defined by:

$$M_c = \sum_{i=1}^{6} \sum_{i=1}^{6} n_{ij} \left| i-j \right| /N$$

where: i = rows (father's category)

j = columns (respondent's category)

n_{ij} = frequencies in cells

TABLE 9 Mobility from Fathers to Respondents. Ratios of Observed Frequencies to Frequencies Expected on The Assumption of Perfect Mobility (Whole Sample)

Father's Education	Respondent's Education							
	1	2	3	4	5	6	7	8
1 No school	2.24	2.32	1.26	.83	.33	.73	–	.24
2 3rd grade primary school	.72	1.34	1.38	.99	.58	.85	.46	.59
3 Completed primary school	1.04	.66	1.02	.96	1.07	1.12	1.36	.58
4 3rd grade secondary school	.48	.10	.69	1.25	1.68	.95	1.67	1.68
5 Completed secondary school	–	.13	.38	1.08	1.56	1.10	1.43	4.33
6 Technical colleges	–	–	.77	–	.95	2.52	1.64	2.08
7 High technical colleges	1.86	2.56	.41	1.63	.80	1.25	.34	.44
8 Universities	–	.32	.31	.88	2.53	.67	1.73	3.33

educational 'distance', by mobility 'ratios', that is the ratio of observed frequencies to frequencies expected, a relative index is given for each educational category. As is shown (Table 9), educational 'inheritance' is greater than was expected, since all mobility ratios in the main diagonal (an exception is in high technical colleges category) are greater than one. Moreover, adjacent educational levels seem to have a higher propensity to attract respondents, whether upwardly or downwardly.

Therefore, since inheritance exerts a significant role in respondents' education, low education of the father implies low probability for the respondent to arrive at higher status education and vice versa.

From this general pattern, however, many exceptions are noted, and their interpretation may be complex. For example, where respondents are illiterates and their fathers have a high technical college education, downward mobility is considerable. This gives rise to the possibility that mobility patterns, besides being affected by social and family conditions, are accounted for by respondents' characteristics, such as their intelligence, sex, age and origin and so forth. These are discussed in the following sections.

1.2 The Influence of Sex on Educational Mobility

The influence of sex on education was studied by comparing intergenerational mobility between males and females. As

Table 8 shows, females have experienced lower educational mobility than males (92%, Yasuda's Index for females, against 96% for males, or in a simple measure of gross mobility, 72% and 82% respectively for females and males (see also Appendix C21, C22).

Lower mobility of females in effect reflects the lower educational attainment that they achieve compared to male respondents. Thus 53% of women had a primary education background against 37% of men; and attention must be drawn to the fact that 9% of women are illiterate against 2% of men. The same pattern occurs in the two 'top' educational categories (high technical colleges and universities) the percentages being 9% for females against 16% for males. At secondary educational level, females are overrepresented with 44%, as opposed to males (25%), whereas the figures are resulted for technical education, the percentages being respectively 4% for females against 20% for males.

These patterns summarised show a considerably lower (50%) upward movement of females compared to 68% upward mobility of males. Furthermore, these patterns reflect prevailing prejudices concerning women's role in socio-economic life, despite the gradual change in the post-war period. As Sanders (1962:244) points out, the education of women in rural areas "has not had the practical significance to the villagers that schooling a boy would have". Thus, women's role, especially for older generations and for people in rural areas is principally conceived in the family context. Campbell

(1964:150) stated that "the wife's role is domestic ... her activities centre in and around the huts". Therefore, under these conditions, females' educational goal orientations are traditionally restricted.

Females' education is strongly dependent on social class origin (Alexander-Eckland, 1974:680). The assumption that women with higher education come from higher social strata was empirically confirmed by Lambiri-Dimaki's survey (1974: Vol.II:139), since 67% of female students in Athens University had fathers with secondary or higher educational background, against 52% of male students. The same pattern is found also in this survey (70% of females have fathers of secondary or higher educational background against 39% of males), but it must be stressed that the number of female respondents with a university background is very small.

Average educational 'distance' that women travel is decisively lower (Bartholomew's Index 1.37 against 2.06 for men), but their pure mobility is higher (53%) than men (46%). This apparently indicates that the structure of occupations followed by women, as far as requirements in education are concerned, has not considerably changed over two generations, and therefore, despite the lower mobility that women experience, compared with men, this is in greater part due to eagerness for their advancement.

1.3 The Relation of Age to Educational Mobility

Important variations are shown in educational mobility with respect to respondent's age. An examination of mobility patterns by cohorts (ten years each) does not merely imply a grouping by relative ages of respondents, but may reflect the changing social structure within which respondents have been socialised. Rapid technological changes have meant a significant change in economic and educational institutions. Especially in education, values do not remain stable over generations (Venn, 1965:98), and the quantity of education (years of schooling) and its quality (educational programmes and means) differ from one generation to the next.

Moreover, the status of various educational levels has changed over a period of time in relation to the role that education plays in the occupational structure. High school education, for instance, would have been much more valuable fifty years ago than today, and technical education earns an exceptional place in industrial societies. Thus different values, opportunities and possibilities separate generations.

These differences are clearly reflected by inter-cohort, intergenerational educational mobility. As was expected younger cohorts experience more education than older ones (98% in youngest cohorts against 94% in the oldest when Yasuda's Index is taken as the basis for comparisons (see Table 8 and Appendix C11-C15), and correspondingly the younger cohorts enjoy lower educational inheritance, the percentages being 20% as opposed to 27% in the oldest group.

More impressive differences are shown in upward and downward mobility. Respondents of the post-war period (the two first cohorts) experience extremely low downward mobility (7% and 9% respectively), and apparently high upward mobility. In the pre-war cohorts (the two last cohorts) the percentages of downward mobility increase from 22% to 28% respectively.

From the point of view of both pure and structural mobility, the patterns follow the same line. Thus 'pure' mobility constantly increases as we move from the youngest cohorts to the oldest, and correspondingly structural mobility steadily decreases in the same way. This reflects once again the 'needs' of the society as far as education is concerned in various points of time.

Average 'educational distance' shows small variations among cohorts. The greatest distance (2.03) is shown in the second cohort which suprisingly has the lowest Yasuda Index, and the shortest distance occurs in the cohort 45-54 (1.40). However, despite variations between cohorts, educational distance from a different viewpoint shows the high mobility that respondents experienced to arrive at the present position.

1.4 The Effects of Geographic Origin on Education

A comparison of educational attainment between respondents recruited from rural areas and those from an urban environment, reveals to some extent that there are inequalities of

educational opportunities with respect to location (6).

Following National Statistical Service of Greece definitions, urban areas have been characterised 'towns with ten or more thousand inhabitants' and places with less than ten thousand inhabitants are considered as 'rural areas'. As a basis for assigning individuals to such a classification respondents' domiciles until the age of fourteen were taken. During this period it is assumed that career decision-making has taken place. Since 25 respondents shared their time in this period between town and village they were excluded from analysis.

As Table 8 shows, small differences underlie respondents' mobility from urban and rural areas. Gross mobility in an upward direction and the 'average distance' Index were found to be higher for respondents emanating from urban areas than from a rural environment. Conversely, respondents from rural areas experienced slightly higher 'pure' mobility than those from urban places. Therefore geographic origin of respondents does not considerably influence mobility patterns, suggesting that more or less similar trends dominate in both groups.

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(6) Anderson and Bouman (Blaug, 1970:116) distinguish three types of equality of educational opportunity: (a) equal amounts of education for everyone, (b) education sufficient to bring everyone to a given standard, and (c) education sufficient to permit everyone to reach their endowed potential. We consider as equality in educational opportunities the last case.

But while mobility patterns are not significantly affected by respondents' geographic origin, educational distributions (see also Appendix C31, C32) concerning their urban and rural background differ considerably. As is shown in Table 10, differences appear between these two groups in all educational categories. The trend in general is that the number of respondents from rural areas in lower educational categories (1 to 4) is higher and conversely, the number in higher educational strata is lower; average educational level being 3.81 for respondents of rural areas against 4.56 for those of urban environment indicates that significant differences ($t = 6.52$, $SE = 0.115$) underlie these two groups. However, the differences in the first two categories together (illiterates or 3rd grade primary school) are more pronounced since twice as many respondents are recruited from a rural environment in comparison to respondents recruited from urban areas (19.44% and 10.90% respectively).

Table 10 Respondents' Educational Attainment (in Percentages) According to Geographic Origin

Educational Attainment	Geographic Origin	
	Urban Area	Rural Area
1 No school	2.68	6.06
2 3rd grade primary school	8.22	13.38
3 Completed primary school	29.03	36.36
4 3rd grade secondary school	9.73	14.90
5 Completed secondary school	15.27	9.85
6 Technical colleges	18.79	9.34
7 High technical colleges	8.73	6.57
8 Universities	7.55	3.54

A major factor accounting for this is an inequality of educational opportunities between the two areas. Thus, in spite of the high priority given to education "less land and more knowledge is needed", the village boys and girls have to earn their education - even low - the hard way because for them there is "no royal road to learning" (Sanders, 1962: 242-243).

The superiority in higher education (categories 6-8) as far as respondents' originating from urban areas is concered, is most marked, since 35% of respondents of urban areas are classified in these categories against 19% of those from a rural environment. This occurs in particular because the overwhelming majority of technical colleges are concentrated in urban areas and as were nearly all universities, particularly in the time that respondents were at the secondary school.

As a rule Greek people from both rural and urban areas accord education a position of outstanding value because education enables a man to pursue occupations which are believed to have greater prestige than farming or manual occupations. This eagerness for education either for respondents themselves or for their children is most profound for rural people, and has been shown to frequently operate as a pull factor for internal migratory movements towards Athens or other urban centres (Moustaka, 1964:62, Baxevanis, 1972:71-73). Thus, the segregation of opportunities in secondary and higher educational levels place people from rural areas in a

considerably inferior position, as far as their socialisation and occupational career is concerned. Thus this factor, to a large extent, underlies the great social inequalities in Greek society.

The high upward educational mobility that underlies movements from father to respondent, irrespective of differences found in terms of sex, age and geographic origin, suggests in general an 'opening' educational system that colours the Greek society. Indeed, the picture which has been given is that the lower strata of the population from the education viewpoint, receive a better education in comparison with their fathers and therefore the educational system could be characterised by a 'democratisation' resulting in a decrease of inequalities of education. However, as Boudon shows (1974) it does not necessarily follow that an increase in educational mobility will generate an increase in social mobility. Thus a compound analysis of educational and occupational trends will give a means for such an evaluation.

2. OCCUPATIONAL TRENDS

2.1 General Patterns

An individual's occupation is a major determinant of his position within the stratification system. Thus occupational comparisons from one generation to another or within the same generation in different time points predominate in sociological research on mobility. In particular this section deals with occupational trends from father to respondent in terms of respondent's features such as sex, age and origin.

As was mentioned in Chapter I the design of the survey resulted in rectangular occupational mobility tables inasmuch father's classification extends over the whole spectrum of occupations. Thus fathers were classified into five broad occupational groups, that is: (a) administrative, professional and executive workers, (b) clerical, merchants and sales workers, (c) service workers, (d) farmers, and (e) craftsmen and labourers. Respondents have been found to practice occupations related to the manufacturing sector and thus cannot be classified into the specific occupational category of 'farmers'. Therefore respondents were grouped in the same occupational categories as fathers with the exception of farmers. This deficiency considerably undermined the available statistical techniques since most of these techniques (stochastic processes models and the majority of mobility indices) presuppose for their application square tables. Consequently only descriptive measures such as outflow and inflow percentages and mobility distance indices can be used.

Table 11 displays actual occupational mobility from father to respondent. As one can see, occupational distributions widely differ between the two generations. That 'craftsmen and labourers' dominate in respondent's generation is adequately explained by the fact that since the survey aimed at the investigation among industrial workers, it favoured the overrepresentation of this category. On the other hand, 'farmers' prevail in father's distribution. Since almost half of the Greek population (47.5%) until the fifties were employed in the agricultural sector and the expansion of Athens (7) was due to the vast migratory movements from rural areas (N.S.S.G.: 1963, Moustaka, 1964, Baxevanis, 1972, among others) father's classification in 'farmers' category is sufficiently interpreted.

Table 11 Actual Occupational Mobility from Father to Respondent

Father's Occupation	Respondent's Occupation				Total
	1	2	3	5	
1 Administratives	6	19	1	13	39
2 Clericals	10	55	3	68	136
3 Service Workers	3	8	-	36	47
4 Farmers	18	49	14	292	373
5 Craftsmen and Labourers	14	56	5	259	334
TOTAL	51	187	23	668	929

(7) Athens from 18% of the total population in 1951 increased to 29% in 1971: N.S.S.G.: 1974:18.

These differences in occupational distribution denote a mobility between generations. However, it must be stressed that the lack of full correspondence between fathers and respondents as far as occupational categories are concerned gives rise to the consideration that some differences in occupational distributions should be ascribed to classificatory effects and therefore overall mobility is rather difficult to present as a concrete measure.

A clearer picture of mobility is given by outflow and inflow percentages. In outflow percentages (Table 12), that is the occupational distribution of respondents in terms of their father's occupational origin, one can see that in the category of 'professionals, administratives and executive workers' which stands on the top of the prestige ranking of occupations, 15% of the respondents maintain the position of 'inheritance'. Furthermore, the adjacent category of 'clerical, merchants and sales workers' recruits half (49%) of the respondents who originate from those 'top' level fathers. Nevertheless, an adequate number of respondents are found in the category of 'craftsmen and labourers' (33%). Thus the downward trend of respondents starting from 'administratives, professionals and executives' fathers is pronounced and the interpretation should be ascribed not only to personal characteristics, but also to occupational and social structure of Greek society.

The category of 'craftsmen and labourers' showed the highest 'immobility' (77%). Industrialisation of the country which in turn suggests more 'openings' or opportunities in this

Table 12 Outflow Percentages from Father's Occupational Category to Respondent

Father's Occupation	Respondent's Occupation				Total
	1	2	3	5	
1 Professionals, Adminstratives, Executive Workers	15.4	48.7	2.6*	33.3	100.0
2 Clerical, Merchants and Sales Workers	7.4	40.4	2.2*	50.0	100.0
3 Service Workers	6.4*	17.0*	-	76.6	100.0
4 Farmers	4.8	13.1	3.8	78.3	100.0
5 Craftsmen - Labourers	4.2	16.8	1.5*	77.5	100.0

* Frequencies < 10

Table 13 Inflow Percentages from Father's Occupational Category to Respondent

Father's Occupation	Respondent's Occupation			
	1	2	3	5
1 Professionals, Administratives Executive Workers	11.8	10.2	4.3*	1.9
2 Clerical, Merchants and Sales Workers	19.6	29.4	13.1*	10.2
3 Service Workers	5.9*	4.3*	-	5.4
4 Farmers	35.3	26.2	60.9	43.7
5 Craftsmen - Labourers	27.4	29.9	21.7*	38.8
TOTAL	100.0	100.0	100.0	100.0

* Frequencies < 10

occupational group than in any other, accounts for such a high proportion of 'stayers'. However, 17% of the respondents starting from 'craftsmen and labourers' fathers arrived at the category of 'clerical, merchants and sales workers'. This movement characterised as an upward one, since respondents from 'manual' occupations moved to 'non-manual' occupational groups, which "in developing countries non-manual jobs are socially superior to manual jobs" (Bibby, 1975:109, Friedl, 1962:49) finds a possible explanation in the environment that their respondents grew up in.

As is apparent, most of these respondents lived in an urban environment (industries as a rule are found in urban areas), and particularly in Athens, enjoyed better training opportunities and other facilities to obtain qualifications for a non-manual occupation than respondents, say, from a rural community.

'Farmers' who dominate in father's generation were found to supply the 'craftsmen and labourers' category with a high (78%) percentage of respondents. Industrialisation and the surplus labour in Greek agriculture (Pepelasis-Yotopoulos, 1962; Pepelasis, 1964; Blau-Duncan, 1967; Lipset-Bendix, 1959; among others) account for such movements.

Nevertheless, it is of special interest that 'farmers' and 'craftsmen and labourers' who compose of more than half the economically active population (57%) supply almost the same percentages of the 'administratives and executives' category

(about 4.5%) and of the 'craftsmen and labourers' group. One would expect that 'craftsmen and labourers' would contribute more than 'farmers' to the supply of the 'top' category in the sense that an urban environment facilitates, through education and other experiences, advancement in this occupational stratum more than rural areas.

The data, however, show distortions from this, suggesting that 'farmers' as much as 'craftsmen and labourers' value occupational promotion despite the unfavourable environmental conditions that they face in the effort to secure for themselves or their children the proper qualifications for such occupational and social improvement. Special difficulties that the environment imposes on respondents' recruitment from farming are usually surmounted by family cohesion and the close links of an extended family. Friedl (1962:52) describing this process points out that "... the group of middle aged brothers and of young adult brothers and sisters in the village could boast of one additional brother who was living in a town or in Athens and each of these men had had some education beyond the village school".

As was shown in educational trends, respondents from rural areas enjoyed lower educational attainment than those of an urban environment. But this pattern takes a peculiar form since from low social strata few individuals endowed with learning capacities follow high education (university level) and gain social advancement. The solidarity of other members

of their families have contributed to this because those persons' social promotion and prestige reflect favourably on the whole family, especially in the close rural community (Campbell, 1964).

In inflow percentages (Table 13) in all groups but the second the highest proportion of respondents is recruited from 'farmers' and an explanation as in outflow percentages rests on technological progress, economic development and surplus of manpower in the agricultural sector.

Ignoring the category of 'services' which contains a small number of respondents, the group of 'craftsmen and labourers' recruit 44% of its respondents from farmers, but a high proportion (35%) of the recruits from 'farmers' form the 'top' occupational category of 'administratives and executives', higher than the corresponding proportion recruited from 'craftsmen and labourers' (27%). This gives rise to the consideration that although education is a crucial factor for such top level jobs (Stratoudakis, 1967:84), other characteristics decisively affect the recruitments for these jobs. Therefore respondents from rural areas, despite the lower education (8) they enjoyed, can develop other characteristics which allow them to occupy top level jobs. This is more pronounced in small firms when the owner who, as a rule, is also the manager of the firm often has low education (Alexander, 1964:117).

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(8) Twice as many respondents from urban areas qualified at university level compared to those of rural areas.

In the category of 'clerical, merchants and sales workers' respondents are equally recruited (29%) from fathers' own category and from 'craftsmen and labourers'. This occupational group can be considered the intermediate stage between manual to non-manual jobs, and recruits respondents with a similar frequency from both manual and non-manual occupational categories.

Inheritance factors (Table 14) were found to exercise a powerful role since mobility ratios are higher than unity in all diagonal cells. Furthermore, mobility ratios have their highest value (this means a distortion of the hypothesis of perfect mobility) in the upper occupational categories while in the 'craftsmen and labourers' category its value was found to be around one.

Table 14 Mobility Ratios of Occupations: Observed Fequencies to Fequencies Expected On the Assumption of Perfect Mobility

Father's Occupation	Respondent's Occupation			
	1	2	3	5
1 Administratives	2.80	2.42	1.04	.46
2 Clericals	1.34	2.01	.89	.69
3 Service Workers	1.16	.84	-	1.06
4 Farmers	.88	.65	1.52	1.09
5 Craftsmen-Labourers	.76	.83	.60	1.08

Table 15 Inflow Percentages from Father to Respondent by Sex

Father's Occupational Categories	RESPONDENT'S OCCUPATIONAL CATEGORIES							
	Administratives		Clerical Workers		Service Workers		Craftsmen-Labourers	
	M	F	M	F	M	F	M	F
Administratives	9.76*	20.00*	10.09	10.26*	-	8.30*	2.47	.90*
Clerical Workers	21.95*	10.00*	26.61	33.33	18.18*	8.30*	11.01	8.52
Service Workers	4.88*	10.00*	5.50	2.56*	-	-	6.29	3.59*
Farmers	31.71	50.00*	35.78	12.85	54.55*	66.70*	41.80	47.53
Craftsmen Labourers	31.71	10.00*	22.02	41.03	27.27*	16.70*	38.43	39.46
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 16 Outflow Percentages from Father 'Farmers' and Craftsment-Labourers' to Respondent's Occupational Categories by Sex

Father's Categories by Respondent's Sex	RESPONDENT'S OCCUPATION				TOTAL
	Administratives	Clerical Workers	Service Workers	Craftsmen-Labourers	
Males					
Farmers	5.80	15.98	2.43	76.23	100.0
Craftsmen-Labourers	6.16	11.37	1.43	81.04	100.0
Females					
Farmers	3.88*	7.75	6.20*	82.17	100.0
Craftsmen-Labourers	.81*	26.02	1.63*	71.54	100.0

* Absolute Frequencies < 10

It is also seen that closely aligned occupational categories tend to concentrate exchanges and thus mobility ratios are higher in adjacent cells of each occupational category than in more distance occupational strata. Thus if occupation is taken as a decisive dimension of social structure, mobility does not operate independently of this structure. In other words, the 'openings' in each occupational group are more likely to be occupied by respondents from near occupational categories than from a distant one. Bartholomew's Index gives an average (1.03) of travelled distance by respondent from his father's occupational group to arrive at his own occupational position the respondent is taken as a baseline for comparison. But this measure allows only to get a crude picture of occupational distance topic since it shows a sensitivity deriving from occupational grouping (Boudon, 1973:51, Bibby, 1975:124-126).

2.2 Effects of Sex on Occupational Patterns

Hitherto occupational trends were examined as a simple movement and no attention was paid to the various factors which inevitably differentiate them. Sex is obviously a fundamental determinant of such a differentiation.

Occupational distributions of males and females considerably differ in the category of 'administratives - executives' which includes respondents with greater responsibilities, and these positions presuppose a certain amount of education, experience and skill. Here twice as many males as females

6.8% males against 2.8% females) are found. Conversely, in the group of 'clerical - merchants - sales' more females than males exist. The large occupational group of 'craftsmen and labourers' shows almost equal percentages between males and females (38.4% opposed to 39.4% females) (see Table 15). In general, differences characterise occupational distributions according to sex, since dissimilar destination in occupational structure underlies males and females (Tyree-Treas, 1974:293), and the comparison is considered with reference to father's occupation only.

Working with the two main fathers' groups, i.e. 'farmers' and 'craftsmen and labourers', since from them 70% of our respondents are recruited, the overwhelming majority of both fathers' groups outflows join the 'craftsmen and labourers' category, the percentages varying from 71.5% to 82.1% (Table 16). However, sex differences are remarkable. Thus farmers fathers supply twice as many males as females in the 'clerical - merchants - sales' occupational group (15.9% males against 7.7% females). Conversely, they provide 'craftsmen - labourers' category with more females than males (82.13% and 76.23% respectively). The inverse patterns hold for 'craftsmen and labourers' fathers as far as the provision of respondents of two occupational groups is concerned. Farmers fathers almost equally as 'craftsmen and labourers' fathers supply the 'administrative - executive' group (5.8% farmers against 6.16% craftsmen-labourers), and furthermore, percentages in this exceed for males than females.

The interpretation of these patterns can be accounted for in the light of educational movements and women's roles in the social context. The lower education that females receive implies lower status occupations. Furthermore, the employment of women in industry is associated with certain social prejudices concerning the prestige of the family (Lambiri, 1965:59-70) and as Sanders (1962:148) points out that characteristically villagers felt "... the Greek women working their own land were better off than American women employed in factories". This picture, however, is gradually changing and younger women from both urban and rural areas enter the industrial force. A characteristic case is given in the 'clerical - merchants - sales' category which can be considered as the step from manual to non-manual jobs; a large proportion of females of this category are recruited from 'craftsmen - labourers' fathers. Conversely, many women from 'farming' are driven towards industry. This latter case involves the beginnings of the process, which aims at the overcoming of environmental difficulties for women and their integration in a such formed industrialised society.

2.3 The Role of Age in Occupational Trends

Occupational categories display different trends insofar as respondents' age is concerned. Though general conclusions cannot be drawn either for occupational groups or ages, however, some trends do indicate potential patterns. Thus taking as a baseline of comparison, the age distribution in each occupational category one can see that the 'top' category

Table 17 Outflow Percentages from Father Farmers and Craftsmen-Labourers Categories to Respondents Categories by Respondents' Cohorts

Father's Occupation By Respondent's Age	RESPONDENT'S OCCUPATIONAL CATEGORIES				TOTAL
	Administratives	Clerical Workers	Service Workers	Craftsmen Labourers	
15-24					
Farmers	5.13	8.97	1.28	84.62	100
Craftsmen	1.10	20.20	3.03	75.76	100
25-34					
Farmers	12.5	22.7	-	64.8	100
Craftsmen	2.5	20.3	-	77.2	100
35-44					
Farmers	1.2	16.5	1.2	81.2	100
Craftsmen	2.5	20.3	1.3	73.1	100
45-54					
Farmers	2.4	7.1	10.6	80.0	100
Craftsmen	8.8	8.8	-	82.5	100
55-64					
Farmers	-	5.4	8.1	86.5	100
Craftsmen	-	4.8	4.8	90.5	100

Table 18 Inflow Percentages from Father's Occupational Categories to Respondents 'Craftsmen-Labourers' Category by Their Cohorts

Cohorts of Craftsmen-Labourers Respondents	FATHER'S OCCUPATIONAL CATEGORIES					TOTAL
	Administration	Clerical	Service	Farmers	Craftsmen/ Labourers	
15-24	1.2*	10.7	4.7*	39.0	44.4	100.0
25-34	1.4*	11.0	6.2*	39.3	42.1	100.0
35-44	3.1*	10.7	6.9	43.5	35.8	100.0
45-54	1.5*	8.3	3.8*	51.1	35.3	100.0
55-64	3.2*	9.7*	4.8*	51.7	30.6	100.0

* Absolute Frequencies < 10.

(administratives - executives) is dominated by respondents of 25 to 34 years old (43%) (see Appendix C41). Since 'executives and administratives' need our up-to-date knowledge in managerial techniques and experience, Greek industries recruit respondents of this cohort which can fulfil both requirements. This thought is supported by low percentages belonging to two extreme cohorts. The first cohort including those aged under limited experience numbered a mere 10% of the sample and the last one contains employees with a lack of contemporary techniques and their number in this sample becomes negligible.

The category of 'clerical - merchants - sales' workers is also dominated by younger respondents and again the age group of 25 to 34 prevails over the rest of the ages (33% against 25%), while in the 'services' occupational group half of the respondents are concentrated in the age range 45-54. Finally, the 'craftsmen and labourers' group displays almost equalled percentages (around 20%) in the middle cohorts but in the extreme cohorts differences were found. So industry attracts a larger number of respondents (25%) in the first cohort, while in the last cohort the percentage is considerably lowered.

Since 'farmers' and 'craftsmen - labourers' comprise the two main categories from which respondents are recruited, it is of special interest to see the way they supply the various occupational groups.

Thus farmers of all cohorts largely supply 'craftsmen - labourers' category (percentages varying from 65% to 86%) (see Table 17). 'Craftsmen - labourers' fathers provide the same category with slightly higher or lower numbers. In the second cohort 'farmers' tend to supply white-collar occupations, since both 'administrative - executive' and 'clerical - merchants - sales' groups show the highest percentage (12.5% and 22.7% respectively) of all cohorts, and consequently 'craftsmen - labourers' category the lowest (65%). 'Craftsmen - labourers' fathers who are mainly in the first three cohorts supply 'clerical - merchants - sales' with higher percentages than the rest of the cohorts. 'Farmers' fathers supply the 'top' group in the first two cohorts with higher percentages than the rest of the cohorts. Conversely, the older cohorts provide the largest percentage of 'craftsmen - labourers'. A higher percentage of 'farmers' supply older cohorts than younger ones in the 'service' category though the number of respondents is very small.

Focussing our interest upon 'craftsmen - labourers' category (Table 18), inflows from father's occupational categories by age groups show that older respondents are more frequently recruited from 'farmers' than younger respondents are. The inverse pattern holds for respondents recruited from 'craftsmen - labourers' fathers. This trend confirms the increase in the manufacturing sector at the expense of agriculture.

The preceding analysis of patterns was based upon a wide aggregate of occupational roles. If instead this, a different categorisation, say occupational status, had been used, the same trends would be observed but in different form (see Chapter IV: Occupational Achievement Process). Neverthless, the most general inference to be drawn from this analysis is that certain changes in occupational structure have taken place between these two generations which can be considered to be of upward direction despite the differentiation of this line that personal characteristics constraints cause.

3. RELATIONSHIP BETWEEN EDUCATION AND OCCUPATION PATTERNS

In reviewing educational patterns it was shown that respondents experienced a high upward mobility. These upward movements will have a practical significance in the context of decreasing social inequalities if individuals with the same qualifications but different social origin occupy same status jobs.

Social origin and education are in a close interdependence, and as Boudon (1974:21) stated, this relation is reflected by a double filtering process "in the first stage they (individuals) go from a given social background to a given education level. In the second stage they go from educational level to achieved status". This process is analysed in Chapter III (Occupational Achievement Process) but what is

interesting here is to show occupational exchanges by means of education and furthermore, to illustrate their influence on the social structure.

Patterns of reciprocal exchanges between education and social origin as it is conceived through occupational roles - as Boudon stated - suggests a mechanism which tends to maintain the status quo in a society in the sense that these exchanges concern fixed positions in the social structure. But in practice many distortions occur from this trend because: (i) occupational roles change disproportionately to population changes since differential fertility underlies the various groups of population. Thus new 'vacancies' belonging to a certain social class necessarily recruit individuals from other social strata. (ii) A number of vacancies which presuppose a certain amount of education and skill can often be occupied by people from different social groups. Therefore these involvements result in a complex process dominated by demand for and supply of occupational roles.

A fundamental question is how these exchanges take place among occupations insofar as an individual's social origin (father's occupation and education) and his own education are concerned. A comparison of occupational trends in terms of educational mobility between the two generations will provide an answer.

This requires the regrouping of occupations and educations into broad categories with as far as possible distinctive

TABLE 19 Respondent's Education and Occupation as A Function of Their Father's Education and Occupation (in Percentages)

Father's Occupation and Education		RESPONDENTS							
		Manuals Educational Attainment			Non-Manuals Educational Attainment			Father's Education	Grand Total
		1	2	3	1	2	3		
MANUALS	1	23.50	13.88	1.26	1.10	5.21	3.63	48.58	
	2	3.00	3.63	.63	.16	2.37	1.58	11.37	
	3	2.52	.95	.16	-	1.26	.32	5.21	65.16
NON-MANUALS	1	6.31	5.36	.79	.32	3.47	2.52	18.77	
	2	1.42	2.21	.63	-	3.47	3.79	11.52	
	3	.32	1.26	-	.32	1.42	1.26	4.58	34.87
Respondent's Education		37.07	27.29	3.47	1.90	17.20	13.10		
Grand Total		67.83			32.20				

1 = No school
3rd Grade Primary School
Completed Primary School

2 = 3rd Grade Secondary School
Completed Secondary School
Technical Colleges

3 = High Technical Colleges
Universities

boundaries. Thus occupations were recoded into two major categories:

(i) manual occupations, that is 'craftsmen and labourers'

AND

(ii) non-manual activities, including the occupational categories of 'administrative - executive', 'clerical - sales' and 'service' workers.

Respondents recruited from farming have been excluded from this analysis for a full correspondence between fathers and respondents occupational categories allows exact comparisons. Therefore a subsample of 634 respondents who originate only from manual and non-manual fathers are subject of this enquiry.

On the other hand, educational attainment was divided into three groups: (i) low education level, including the first three educational categories, i.e. primary school or illiterates; (ii) intermediate level composed of secondary education and technical colleges, and (iii) high level education containing high technical colleges and institutions of university level.

Educational and occupational changes from father to respondent using this new classification are displayed in Table 19 (see also Appendix C6). Some remarkable points derive from this table, thus:

(i) The same occupational distribution insofar as manual and non-manual occupational groups are concerned is found in effect in both generations. The percentage by which respondents exceeded fathers in manual occupations (67.8% against 65.2%) is negligible.

(ii) Despite the absence of occupational mobility, high educational movements in an upward direction are found. The most noticeable case of differences between the two generations is in high level of education in the non-manual block (13.10% respondents against 4.58% fathers).

(iii) Fathers of intermediate level of education are equally distributed between manual and non-manual occupation (11%). Conversely, the majority of respondents from such an educational level are found in manual occupations (27%) than in non-manual jobs (17%).

(iv) A considerable proportion of fathers (19%) with low educational attainment are classified in non-manual occupational categories while the corresponding proportion of respondents is lowered to 1.90%.

The relationship between education and occupation in each generation is reflected by significant chi-squares: (X^2 = 28.91 2 d.f. p = .01 for fathers and X^2 = 173.81 2 d.f. p = .000 for respondents). This suggests that an association between education and occupation is higher for respondents

than their fathers, which in turn gives rise to the consideration that each generation has experienced different conditions in their socialisation.

These trends show that the structure of the two main groups of Greek society implies a number of differences and contradictions between education and occupational roles. But to evaluate these trends certain assumptions have to be put forward. So we assume that:

(i) Non-manual occupations enjoy higher prestige than manual. Nevertheless it must be stressed that some white-collar occupations require much less education and skill and involve lower income than many blue-collar occupations.

(ii) Education precedes and accounts for occupations. Low educational level supplies low status occupations, and high education equips high status jobs. The intermediate level of education, since its range is wide, is assumed to supply equally low and high status occupations. Thus respondents of first grades of secondary education and some technical colleges are more likely to follow manual than non-manual occupations. Conversely, respondents who have completed secondary education usually practise non-manual activites.

A summary of occupational and educational trends as they are derived from Table 19, are given in Table 20 below.

Table 20 Occupational Mobility from Manual and Non-Manual Fathers to Respondents Controlling by Educational Mobility Patterns (in percentages)

EDUCATION	OCCUPATION			TOTAL
	Immobility	Upward	Downward	
Immobility	32.33	3.78	8.52	44.53
Upward	25.56	10.41	6.78	42.75
Downward	8.20	1.42	3.00	12.62
TOTAL	66.09	15.61	18.30	100.00

The way that education is related to occupation provides interesting patterns. Thus:

(i) Marginals show that the 44.63% who are educationally immobile represent 66.09% of the occupationally immobile. This suggests that a considerable proportion of respondents (about 22%) remain in their father's occupational category despite the fact that they enjoyed a different - and apparently upgraded education. Thus inheritance forces played a more powerful role than education in respondent's career.

(ii) A large proportion of respondents (42.75%) experienced upward educational mobility but only 15.61% of them moved upward in occupational groups. This difference indicates that 'a wasteful' education predominates in manual groups.

(iii) Educational and occupational movements are consistent for 10.4% who move upward in both dimensions and 38% who move downward in both. Nevertheless, it is noticeable that from this proportion 23% of the respondents are concentrated in the low educational level and in manual occupations (see Table 19).

(iv) The off-diagonal cases which indicate inconsistency between education and occupation do not follow a general pattern. Respondents who experienced upward educational mobility but remain immobile as far as occupation is concerned, form the most important group since their proportion is high (25.56%). In general a trend of improvements in education, but not advancement in occupation, is possible.

These patterns suggest that the industrial tasks do not adequately meet the educational qualifications of respondents and therefore a disequilibrium occurs in the distribution of manpower education - under these specific assumptions - among occupations. This gives rise to the necessity of considering (i) whether the amount of additional education that the respondents' generation experienced was absorbed by an increase in the educational requirements of occupations, or (ii) whether there is a 'surplus' education in relation to occupation requirements, which obviously remains 'idle', or (iii) a combination of the two preceding possibilities.

To confirm these conjectures, further data is necessary. Nevertheless, the fact that in the educational trends section 'pure' mobility was found to be higher than 'structural' mobility supports the assumption that 'surplus' education exists. In point of fact the disequilibrium between the education market and the labour market has deep roots in the economic and social structure of the country. The level of economic development underlies the labour market mechanisms in a process of demand and supply of occupational roles. On the other hand, the outstanding position that education possesses in all social strata dominates the individual's social values and stimulates them to desire more education independently of occupational needs. However, how to reconcile education to occupational demands is a matter of manpower planning (see, for instance, Blaug, 1970:136-145) and it needs a detailed job description such that a match can be established between the requirements of the job and the level of education.

From a sociological perspective the above picture of exchanges between education and occupations suggests that occupational inequalities continue to be at the same level in those two main social strata between two generations, although educational inequalities have decreased. Therefore in the short term education exercises a less powerful role in decreasing social inequalities than has been assumed. However, in the long term its role can be proved particularly important if a new policy aiming at the elimination of differences between social strata can be adopted.

Occupational achievement is the most important component of social status. As Goldthorpe (1970:11) points out "man's work tends to be a more important determinant of his self-image than most other of his social activities". Individuals usually formulate occupational goals which are related to their particular situation and order them according to their values. An empirical question is what factors influence the realisation of goals or achievement and thus accounting for the variation of occupational status.

Occupational achievement depends upon many factors (economic, social, psychological and even biological) and to a great extent they are outside the individual's control.

Family background, such as parents' education and occupation, their income, the number of siblings, place of birth, are widely recognised as playing a crucial role in an individual's occupational achievement (Blau-Duncan, 1967:165, Sewell-Shah, 1968:191-209, Sewell-Haller-Portes, 1969:82-92). Moreover, characteristics like individual's intelligence, aspiration for advancement, social influences and psychological features give a better explanation of occupational achievement according to Duncan, Featherman, Duncan (1972:72-203) and Sewell-Hauser (1975:89-110).

In this chapter we shall try to discover what factors account for a respondent's occupational status. In particular, using

inter-generational data, the main concern focuses upon the ways family background and some personal features affect the respondent's occupation. More precisely, the variable in which we are primarily interested are: "respondents' present occupational status" (X_7) - thus is regarded as the ultimate dependent (or endogeneous) variable. We want to explain its variation by means of family background, i.e. "Father's Education" (X_1), "Father's Occupation" (X_2), "Number of Siblings" (X_3) and by means of respondents' features like: "Place of Residence until the age of fourteen" (X_4), "Sex" (X_5) and "Educational Attainment" (X_6).

The basic method used in this section is path analysis. As this method, which was originally developed in genetics by Wright (1921, 1960) and introduced to the social sciences by Blalock (1964), Duncan (1966), Blau-Duncan (1967), Goldberg (1966), Boudon (1968), and has been presented in detail by Land (1969), Heise (1969), Kerlinger-Pedhazur (1973:305-333) and Goldberger-Duncan (1973), no detailed or elaborate presentation of the techniques is included here.

Definitions of the variables have been given in preceding chapters. But, in addition, we may note that the variables X_4 (Place of Residence) and X_5 (Sex), for analytical reasons, have been treated as dummy variables. Moreover, the variable "respondent's order in siblings" has been excluded from the basic model, and this deserves some brief explanation. Obviously this variable is of special interest, since the

position a respondent occupies among his siblings has been shown to affect his career. Blau-Duncan (1967:307) noted that children in the extreme positions, that is first-born or last-born, are most successful.

In this study "respondent's order in siblings" in the first and second cohort, i.e. ages between 15 to 34 is significantly ($r = .05$) correlated with his educational attainment as Table 21 shows.

TABLE 21 Simple and Partial Correlations Among the Variables: Number of Siblings, Order in Siblings, Education

COHORTS	Correlation: Order in Siblings With		Partial Correlation Controlling Variables:
	Education	Number of Siblings	Number of Siblings Education
15-24	-.264	.758	-.164
25-34	-.193	.704	.045
35-44	-.124	.580	.002
45-54	-.065	.645	.036
55-64	.054	.543	.039

The negative correlations reflect the primogeniture in Greek society, especially in particular geographic areas (Mani, Crete, Epirus), where the first-born males enjoy privileged treatment, in that it is felt that since "the transfer of executive power from the father to his eldest son" (Campbell, 1964:161) is traditionally made, they must have qualifications to preserve family's prestige and honour.

Moreover, the variable "order in siblings" is positively and significantly correlated with the variable "number of siblings". A deeper examination of this relationship, however, reveals that the variable "number of siblings" to some extent compounded with the variable "order in siblings", since a respondent can only occupy the k^{th} rank, if at least k siblings exist. In other words, the variable "order in siblings" is a "conditional variable" in the formal sense.

In fact, controlling the relationship between the variables: "educational attainment" and "order in siblings" by the variable "number of siblings", we see that educational attainment no longer varies with the "order of siblings". Correlation coefficients are considerably reduced (from -.264 it became -.164 in the first cohort, for instance) as their magnitude was affected by the variable "number of siblings". Thus collinearity effects (high correlation coefficients between independent variables) obviously are present, which in turn cause difficulties in multivariate analysis (Kendall, 1975:95). For this reason the variable "order in siblings" is excluded from the analysis since it is represented by the common underlying dimension "number of siblings".

1. CORRELATION OF THE VARIABLES

An examination of the zero-order correlation of two variables is the first step in building a path model. As Wright (1921: 557) pointed out "The path method depends on the combination of knowledge of the degree of correlation among the variables

in a system with such a knowledge as may be possessed of a causal relation".

Table 22 displays the simple (zero-order) correlations between variables that we assume enter the basic path model. As one can see, no unique pattern of significant correlations holds over all age cohorts. For example, though a strong relationship exists between respondent's occupational status and his father's educational attainment for the cohorts 1, 2, 4 (i.e. ages 15-34 and 45-54), it is negligible for the cohorts 3 and 5.

Considering only the fourth cohort (ages 45-54) which contains the highest correlation between the respondent's occupational status and his educational attainment, the following trends which are consistent with previous surveys (Lipset-Bendix (1959), Svalastoga (1959), Blau-Duncan (1967)) have been found:

(a) Respondent's occupational status is positively correlated with: (i) his/her own educational attainment, (ii) sex, (iii) place of residence, (iv) father's education and (v) father's occupation. More precisely: the greater the educational attainment, the higher the occupational status. Relatively high occupational status is also found for men, for respondents from urban areas and for those whose fathers have better educational attainment and higher occupational statuses. The strongest correlation is found between the respondent's education and his occupation and father's education and his occupation. This close link between

TABLE 22 Simple Correlations Between Variables Entering Into The Basic Model by Cohorts

Variables / Age Group & Variables	X_2	X_3	X_4	X_5	X_6	X_7	N
15-24							
X_1	.282a	-.116	.225a	-.047	.270a	.160a	221
X_2	-	-.262a	-.282a	-.022	.225a	.209a	221
X_3		-	-.038	-.142a	-.188a	-.041	221
X_4			-	-.038	.141a	-.049	221
X_5				-	.313a	.108	221
X_6					-	.411a	221
X_7						-	221
25-34							
X_1	.390a	-.148a	.177a	-.048	.315a	.198a	225
X_2	-	-.222a	.326a	.078	.296a	.217a	225
X_3		-	-.258a	-.099	-.313a	-.292a	225
X_4			-	.039	.200a	.172a	225
X_5				-	.201a	.172a	225
X_6					-	.513a	225
X_7						-	225
35-44							
X_1	.249a	-.117a	.013	.078	.246a	.075	209
X_2	-	-.107	.309a	-.005	.111	.132a	209
X_3		-	-.208a	-.021	-.226a	-.076	209
X_4			-	-.007	.152a	.167a	209
X_5				-	.366a	.181a	209
X_6					-	.566a	209
X_7						-	209
45-54							
X_1	.446a	-.097	.111	.023	.407a	.324a	179
X_2	-	-.083	.206a	.045	.465a	.225a	179
X_3		-	-.243a	-.119	-.111	-.077	179
X_4			-	.071	.309a	.283a	179
X_5				-	.267a	.233a	179
X_6					-	.604a	179
X_7						-	179
55-64							
X_1	.603a	-.069	.221	.016	.090	-.003	73
X_2	-	-.203	.271a	.147	.264a	.132	73
X_3		-	-.184	-.078	-.079	-.119	73
X_4			-	.098	.193	.028	73
X_5				-	.380a	-.058	73
X_6					-	.370a	73
X_7						-	73

X_1 = Father's education
X_2 = Father's occupation
X_3 = Number of siblings
X_4 = Respondent's residence
X_5 = Sex (respondent)
X_6 = Respondent's education
X_7 = Respondent's occupation
a = Level of significance $\leq .05$

education and occupation is not surprising. As Lane (1975:477) points out, since employers use educational level "as a crucial credential for employment" the labour market in fact maintains the correlation between education and job status. Conversely, the respondent's occupational status is negatively related to the number of siblings, that is, the larger the family, the lower respondent's occupational status.

(b) Correlations concerning respondent's educational attainment with the rest of the variables follow a similar pattern to that described above.

(c) The number of siblings is negatively correlated with the respondent's place of residence, in the sense that in urban areas family size is smaller than in rural areas. In addition, the number of siblings is negatively correlated with father's educational attainment which in turn indicates that the greater the father's education, the smaller his family size.

(d) Place of residence is positively related to father's occupational status and therefore fathers with higher occupational statuses are more frequently found in urban areas.

An inter-cohort comparison of significant correlations (presented in Table 23) shows that strong relationships are met in all cohorts between the variables: (i) respondent's education and his occupation, (ii) respondent's education and his/her sex, (iii) respondent's place of residence and father's occupation, and (iv) father's education and his occupation, thus suggesting that the reasons which underlie these relationships are stable over time. Analogous conclusion can be drawn for the rest of the patterns.

What is particularly remarkable is the absence of a significant correlation between respondent's education and father's occupational status in the third cohort (i.e. age 35-44). A probable explanation for this lies in the fact that respondents born between 1930-1940 had to undergo the "cataclysmic changes and major social upheaval" (Sanders, 1962:294-295) caused by the Second World War.

In general, it must be emphasised that the first cohort (15-24) and the fifth (55-64) each seem to include respondents with some distinctive characteristics. In the first cohort, a number of respondents have not completed their education and are likely to enter the labour force on a temporary basis and to follow occupations which do not correspond to their educational level.

TABLE 23 Patterns of Significant Correlations Between Variables Entering the Basic Model by Cohorts

Cohorts	Correlations Between Variables $\rho \leq .05$	$\rho \leq .01$
1, 2, 3, 4, 5	X_7 ----- X_6 X_6 ----- X_5 X_2 ----- X_1 X_4 ----- X_2	X_7 ----- X_6 X_6 ----- X_5 X_2 ----- X_1
1, 2, 3, 4	X_7 ----- X_2 X_6 ----- X_1 X_6 ----- X_4	X_7 ----- X_2 X_6 ----- X_1
1, 2, 4, 5	X_6 ----- X_2	X_6 ----- X_2
2, 3, 4	X_7 ----- X_5 X_7 ----- X_4 X_4 ----- X_3	X_7 ----- X_4 X_4 ----- X_3
1, 2	X_4 ----- X_1 X_3 ----- X_1	X_4 ----- X_1 X_3 ----- X_1

X_1 = Father's education
X_2 = Father's occupation
X_3 = Number of siblings
X_4 = Respondent's residence
X_5 = Respondent's sex
X_6 = Respondent's education
X_7 = Respondent's occupation

On the other hand, the last cohort, besides the small number of subjects (73 respondents) which implies larger sampling fluctuations, contains respondents who have grown up in different socio-economic environment. They were born between 1908 and 1918 and 18% of them spent their adolescence in Asia Minor, therefore they cam from a different geographic and cultural area (Psiroukis, 1964:83-86). As Sandis (1973:118) found in a comparative survey, the socio-economic situation of refugees from Asia Minor was higher than for native Greeks, since "they more frequently held high level jobs, both as independent artisans and in commercial and professional positions".

These differences of significant correlations among cohorts suggest that a general path model will exhibit a different degree of fit over cohorts, according to the strength of the correlations for that cohort.

PATH MODELS - MODEL I

Building on the knowledge of the pattern of correlation reviewed above, an attempt is made to establish the best path model to explain, in terms of the specified variables, respondents' occupational status.

Correlation coefficients provide some support for the following: (i) factors outside this model affect both father's education and occupation. (ii) father's education and occupation affect "number of siblings" on the one hand,

and respondent's place of residence on the other, (iii) sex and the preceding variables influence respondent's educational attainment, and (iv) educational attainment along with all the preceding variables affect occupational status. This suggests four causal stages, as depicted in Path Diagram I (Figure 2).

The Path Diagram suggests:

(a) The causal flows in the model are unidirectional, i.e. at a given point in time a variable cannot be simultaneously a causal and an effect of another variable (recursive model).

(b) The model is multistage with four causal stages and multivariate as more than one independent variable exist in each causal stage.

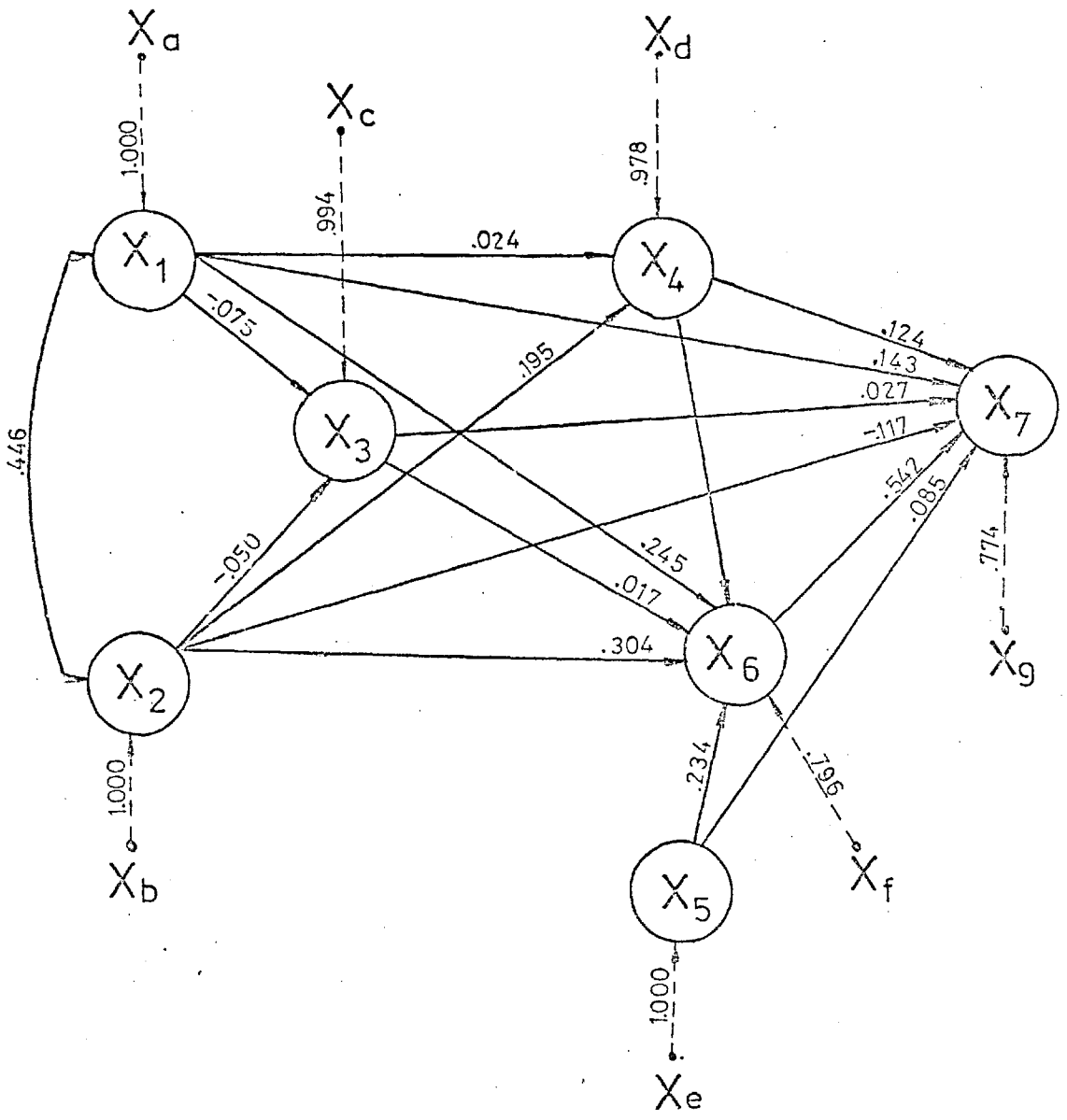
(c) Father's education and occupation and respondent's sex are treated as exogenous variables, that is their variability is assumed to be determined by causes outside this model.

(d) Sex is not connected with all the variables in the system but only with respondent's education and occupation, since it can safely be assumed that there is no correlation with the other variables (Table 22) (Wright, 1960(1971):102).

(ed) The variables at the causal stages: number of siblings, place of residence, respondent's education and respondent's occupation are treated as dependent variables in one set of variables and independent on the other. For example, X_4 is a dependent variable in the set of variables X_1 and X_2, but it is taken as independent whenever X_6 or X_7 are treated as dependent variables.

FIGURE 2 PATH DIAGRAM (MODELI)

COHORT 45-54



X_1 = FATHER'S EDUCATION
X_2 = -"- OCCUPETION
X_3 = NUMBER OF SIBLINGS
X_4 = PLACE OF RESIDENCE
X_5 = SEX
X_6 = RESPONDENT'S EDUCATION
X_7 = -"- OCCUPETION

X_a - X_g = RESIDUALS

(f) The residual variables X_a to X_g represent that part of the variation both of exogenous and dependent variables, which is due to factors outside the model. Thus not only do exogenous variables have sources of variance outside the model, but endogeneous variables do also.

Based on the path diagram, ordering the dependent variables in terms of their causal priorities, the functional relations of all variables are expressed by the following structural equations:

$$X_1 = X_a$$
$$X_2 = X_b$$
$$X_3 = P_{32} X_2 + P_{31} X_1 + P_{3c} X_c$$
$$X_4 = P_{42} X_2 + P_{41} X_1 + P_{4d} X_d$$
$$X_5 = X_e$$
$$X_6 = P_{65} X_5 + P_{64} X_4 + P_{63} X_3 + P_{62} X_2 + P_{61} X_1 + P_{6f} X_f$$
$$X_7 = P_{76} X_6 + P_{75} X_5 + P_{74} X_4 + P_{73} X_3 + P_{72} X_2 + P_{71} X_1 + P_{7g} X_g$$

and the results by cohort are given in Table 24.

As one can see in this table, the percentage of the variance accounted for (R^2) is lowest in the two extreme cohorts (20%) and highest, 40%, in the cohort 45-54. It further suggests that the residual factors ($\sqrt{1 - R^2}$), that is variables not measured account for a considerable part of the variation in the dependent variables. Since this model implies high residuals, the result should be considered dubious. Blau-Duncan (1967:175), however, states that "the size of the residual is no guide

whatever to the validity of the causal interpretation ... the relevant question is whether the unobserved factors it stands for are properly represented as being uncorrelated with measured antecedent variables".

Whatever position one adopts in reference to this point, the validity of the causal order shown within the model can still be tested. The goodness of fit of the model, as far as the causal ordering is concerned, is tested by reproducing correlation coefficients (1) (Duncan, 1966:121, Blau-Duncan, 1967:172-173, Land, 1969:26). Thus, if the reproduced (theoretical) correlations do not significantly deviate from the original (empirical) correlations, one may assume that this causal system expresses the real priority of the variables included in the model. Otherwise the discrepancies between empirical and theoretical correlations are due to the fact that some possible paths that have assumed to exist in the model, in fact do not do so.

Using the formula:

$$\gamma_{ij} = P_{i}k \quad {}_{k}k$$

where (i) and (j) denoted two variables in the system and k includes all variables from which the paths lead to X_i (dependent variable); the correlation coefficient, for example, between respondent's education and his father's education (γ_{16}), determined in this way, is:

(1) Heise (1969:63) criticising this method argues that if one assumes a model with a full scale recursive system, it always can produce the empirical correlations even if the model is absolutely wrong.

TABLE 24 Path Coefficients (Partial Regression Coefficient in Standard Form) By Cohorts

Independent / Dependent	X_1	X_2	X_3	X_4	X_5	X_6	R^2
15-24							
X_3	-.046	-.249					.071
X_4	.158	.238					.103
X_6	.228	.138	-.067	.044	.319		.212
X_7	.046	.160	.038	-.150	-.009	.394	.208
25-34							
X_3	-.073	-.193					.054
X_4	.059	.303					.109
X_6	.232	.125	-.219	.055	.179		.226
X_7	.027	.033	-.129	.033	.069	.434	.290
35-44							
X_3	-.096	-.083					.020
X_4	-.067	.326					.100
X_6	.195	.011	-.170	.113	.347		.232
X_7	-.079	.071	.070	.070	-.027	.593	.341
45-54							
X_3	-.075	-.050					.011
X_4	.024	.195					.043
X_6	.245	.304	.017	.207	.234		.366
X_7	.143	-.117	.027	.124	.085	.542	.400
55-64							
X_3	.033	-.253					.046
X_4	.39	.217					.079
X_6	-.081	.233	.010	.117	.336		.204
X_7	-.096	.104	-.099	-.060	-.244	.447	.204

X_1 = Father's education
X_2 = Father's occupation
X_3 = Number of siblings
X_4 = Respondent's residence
X_5 = Sex (respondent)
X_6 = Respondent's education
X_7 = Respondent's occupation

$$r_{16} = P_{61} + P_{62} r_{12} + P_{63} (P_{31} + P_{32} r_{12}) + P_{64} (P_{41} + P_{42} r_{12})$$

and the application in the first cohort gives: $r_{16} = .285$ against $r_{16} = .270$ of empirical correlation coefficient.

The empirical and theoretical correlations do not decisively differ in the cohorts 1, 2 and 3 (i.e. ages between 15-44) but do, mainly in the Causal Stage 3 (number of siblings predicted by father's education and occupation) in the last two cohorts (see Appendix C8). The poor fit of the model in these cohorts can be partially ascribed to violations in the assumption of linearity. (2)

The outcome of this analysis is that even in the first three cohorts the model seems to fit, the causal stages X_3 (number of siblings) and X_4 (place of residence) by no means explain a great deal of the variation in father's education and occupation (R^2 = 7% for X_3 and R^2 = 10% for X_4).

Some additional points, however, are revealed by a consideration of these stages. First, the number of siblings is negatively affected by both father's education and occupation, mainly in the first, second and fifth cohorts. In particular, father's occupation more than his education underlies this relation. This corroborates the trend that the higher the social class, the smaller the number of siblings and in addition

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(2) Assumption of linearity in the cohort 45-54 and 55-64 for the causal stage X_3 is weak ($\propto$ = .36 and $\propto$ = .20 respectively).

newer generations have lower birth rates than older ones (3). Secondly, in all cohorts father's occupation constantly affects respondent's place of residence more than his education.

MODEL II (Modification of Model I)

The weak prediction of the number of siblings and place of residence by father's education and occupation suggests first, that the causal ordering of these variables (X_3 and X_4) is not the correct one, and secondly, that other intervening variables may provide a more satisfactory explanation of "number of siblings" and "place of residence". This leads us to modify the model, by deleting these causal stages, given that no further information is available for a better explanation of these variables.

In this case the variables X_1 to X_5 are treated as exogeneous causing X_6 (educational attainment) which in turn has a considerable effect on X_7 (occupational status) (4). The modified model is depicted in path diagram II (Figure 3) and the path coefficients are given in Table 24 (page 139) in the last two rows of each cohort. Both coefficients for X_6 and X_7 remain unchanged whether this system includes the causal stages X_3 and X_4 or not.

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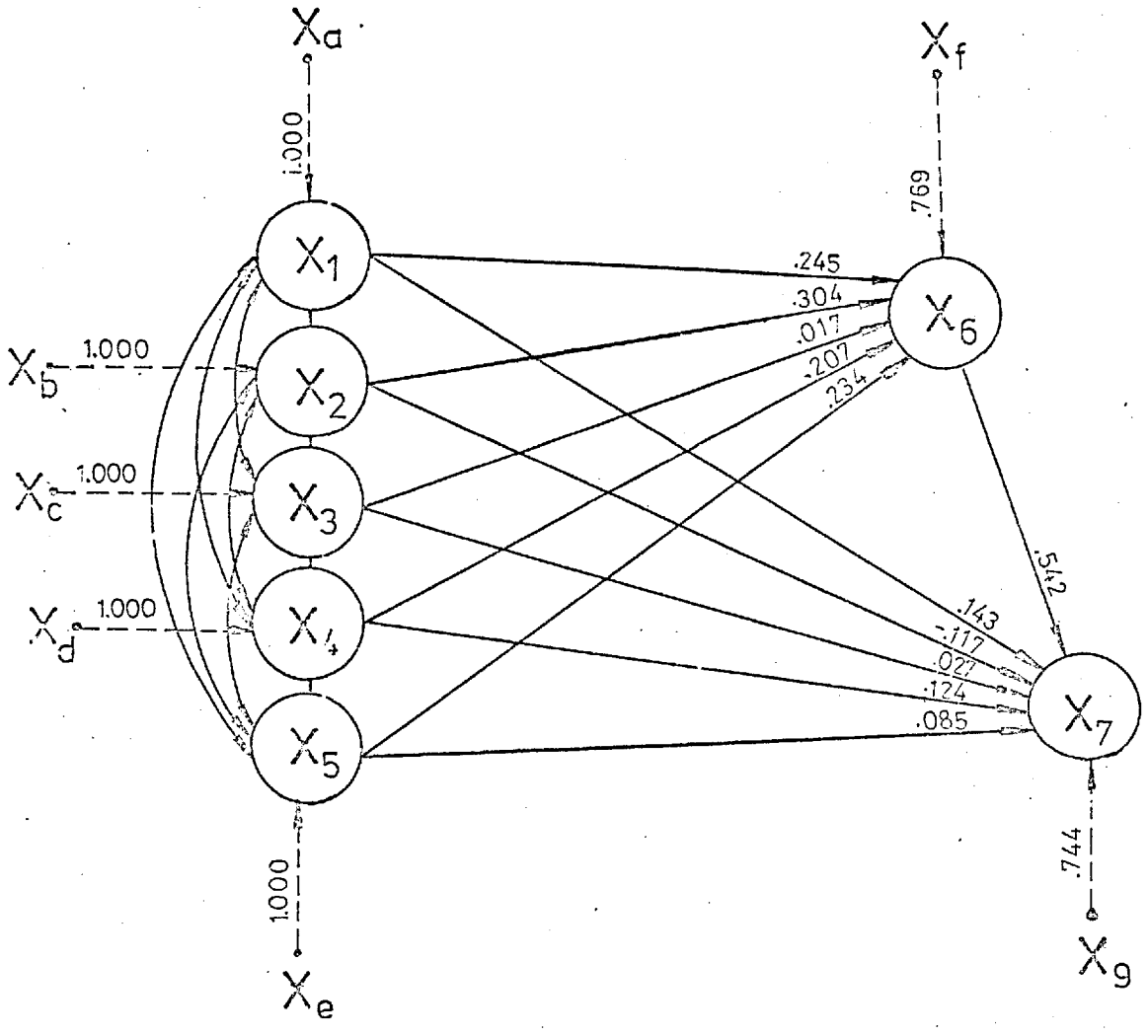
(3) Births per 1000 inhabitants: 1931 = 31.34, 1973 = 15.40 (Statistical Yearbook of Greece, 1974, p36).

(4) A model using the same set of variables but instead of cohorts uses sex distinction (in this case age variable was treated as exogeneous variable) gave R^2: 21% for men's occupational status, 36% for women's and 27% for the overall sample. Thus the prediction is considerably weaker than in the model which employs cohorts. See Appendix p.160a

FIGURE 3. PATH DIAGRAM (MODEL II)

COHORT 45-54



X_1 = FATHER'S EDUCATION
X_2 = -"- OCCUPATION
X_3 = NUMBERS OF SIBLINGS
X_4 = PLACE OF RESIDENCE
X_5 = SEX
X_6 = RESPONDENT'S EDUCATION
X_7 = -"- OCCUPATION

$X_a - X_9$ = RESIDUALS

Broadly speaking, Table 24 displays a causal system that primarily explains variation in educational attainment, which in turn decisively influences occupational status. It is, therefore, of particular interest to consider the decomposition of causal linkages into constituent direct and indirect effects.

The direct effects are estimated by the magnitude of path coefficients. Indirect effects are considered by some scholars (Blau-Duncan, 1967:176, Land, 1969:16) as the difference between total effect, denoted by correlation coefficient and direct effects, that is:

TOTAL EFFECT	=	DIRECT EFFECTS	+	INDIRECT EFFECTS
(Correlation Coefficient)		(Path Coefficient)		

Finney (1972:180), however, has shown, and Almin-Hauser (1975:45), have adopted this line of approach, that is formula is valid only when only one exogeneous variable exists in the system. Whenever more exogeneous variables are included in the causal model, this formula is incorrect since the correlation coefficient is defined by: (i) the direct effects, (ii) the indirect effects, and (iii) association due to correlation between exogeneous variables. Consequently the association due to correlation between exogeneous variables in no sense can be considered as a component of the indirect effects of one variable on another and hence indirect effects cannot be estimated by subtracting the path coefficient from the correlation coefficient.

Regarding the relationship between father's education (X_1) and respondent's occupational status (X_7), the correlation coefficient determined via path coefficients has the following components:

$$r_{17} = \underline{P_{71}} + P_{72}\, r_{12} + P_{73}\, r_{13} + P_{74}\, r_{14} + P_{75}\, r_{15} + \underline{P_{76}\, P_{61}} + P_{76}\, P_{62}\, r_{12} + P_{76}\, P_{63}\, r_{13} + P_{76}\, P_{64}\, r_{14} + P_{76}\, P_{65}\, r_{15}$$

According to Finney's method the direct effect is given by P_{71} (path coefficient) and the indirect effect by $P_{76}\, P_{61}$, the only term that does not contain a correlation coefficient of exogeneous variables. In the first cohort, for instance, the direct effect of father's education on occupational status is (.046) and the indirect effect (.394) (.228) = .090.

It must be stressed that the indirect effect estimated in this way is always lower than if it is estimated by the method of subtracting path coefficients from correlation coefficient. In the above example the indirect effect calculated by the subtracting method is (.114).

In the causal stage X_6 (education) only direct effects are met, since no other preceding linkage exists in the system. Conversely in causal stage X_7 (occupational status), there is a direct effect from education and indirect effects from all variables associated with education. The indirect effects on occupational status, estimated by Finney's method, are given in Table 25.

TABLE 25 Direct and Indirect Effects on Occupational Status By Cohorts

	X_1	X_2	X_3	X_4	X_5	X_6
15-24						
Direct effects	.046	.160	.038	-.150	-.009	.394
Indirect effects	.090	.054	-.026	.017	.126	
25-34						
Direct effects	.027	.033	-.129	.033	.069	.434
Indirect effects	.101	.054	-.095	.024	.078	
35-44						
Direct effects	-.079	.071	.070	.070	-.027	.593
Indirect effects	.116	.006	-.101	.066	.206	
45-54						
Direct effects	.143	-.117	.027	.124	.085	.542
Indirect effects	.133	.165	.009	.112	.127	
55--64						
Direct effects	-.096	.104	-.099	-.060	-.244	.447
Indirect effects	.036	.104	.004	.052	.150	

X_1 = Father's education

X_2 = Father's occupation

X_3 = Number of siblings

X_4 = Respondent's place of residence

X_5 = Respondent's sex

X_6 = Respondent's education

In all cohorts the largest direct effect on occupational status emanates from education. But the magnitude of educational effects on occupational status shows considerable instability over the five cohorts. Attention, however, should be focussed on the three middle cohorts, because, as has been explained earlier, the first and last cohorts include respondents of specific characteristics.

With respondents of ages 35 to 44 the maximum educational effect on occupational status occurs. Does this relation indicate that the educational attainment of these respondents is higher compared with that of others? Certainly not, because - as Table 26 shows - average educational attainment is lower (4.09) than the average of the adjacent cohort 25-34 (4.92).

Moreover, assuming cohort sub-samples are independent populations normally distributed, the differences of average education among cohorts are significant, as a formal test statistic shows ($t = 4.61$ and 3.44, respectively, comparing the third cohort to the second, and the second cohort to the fourth). Averages of these cohorts show that the amount of educational attainment decreases as the age of respondents increases. The fact that education is higher in the younger cohorts is simply accounted for by the impact of contemporary economic development and expansion of schooling, as has been shown in data in educational trends.

TABLE 26 Means and Standard Deviations of Variables Entering the Basic Model by Cohorts

	X_1	X_2	X_3	X_4	X_5	X_6	X_7
15-24							
Mean	3.05	21.18	2.21	.68	.48	4.75	25.52
S.D.	1.29	17.62	1.41	.47	.50	1.61	21.29
25-34							
Mean	3.19	23.59	2.52	.57	.70	4.92	33.85
S.D.	1.47	20.36	1.53	.50	.46	1.79	22.60
35-44							
Mean	3.10	20.63	2.86	.59	.69	4.09	26.41
S.D.	1.62	17.48	1.40	.49	.46	1.94	20.82
45-54							
Mean	2.80	21.46	2.68	.57	.69	3.47	26.99
S.D.	1.62	19.46	1.61	.50	.47	1.70	21.80
55-64							
Mean	3.07	23.26	2.81	.48	.85	3.42	21.99
S.D.	1.83	21.96	1.54	.50	.36	1.59	19.90

X_1 = Father's education

X_2 = Father's occupational status

X_3 = Number of siblings

X_4 = Respondent's place of residence

X_5 = Respondent's sex

X_6 = Respondent's education

X_7 = Respondent's occupational status

The pattern, however, is distorted in the case of occupational status. Comparing the averages of the three middle cohorts, one can see that the cohort 35-44 exhibits the lowest average occupational status. How should this inconsistency be interpreted? Apparently having grown up in a period of political instability (Second World War) and economic stagnation (consequences of the war) (Coutsoumaris, 1963:19-28), these respondents experienced less education than the younger respondents. On the other hand, the economic structure of Greece soon after the Second World War period presented all the characteristics of an underdeveloped economy; an exaggerated agricultural sector, industry absorbing a small proportion of the population and using obsolete production techniques; management also, by and large, discouraged respondents from making an effort to acquire technical specialisation and more qualifications. Half of the respondents (48%) experienced only a formal primary education and since no 'demand' factors (Rogoff, 1953:30-31) stimulated an improvement informally (evening technical colleges, training within industry etc), they have been absorbed by low status occupations. This also suggests that the structural dynamics of the process of occupational achievement, such as environmental and institutional factors or previous job, have lesser effects in the younger cohorts on respondent's current occupational status.

Sex, more than any other variable - and especially in this cohort (P_{65} = .347) - directly influences educational attainment; females receive lower education than males,

particularly in older cohorts for reasons that were discussed in detail in earlier sections.

Father's education, more than his occupation, affects respondent's education attainment in the first three cohorts. This should lead us to suppose that besides the importance of social origin in shaping aspiration for education, father's educational background is a factor which instills in children the ambition for education and advancement. It should also be indirectly regarded as an outlet for parents to compensate for the lack of their own education, and hence to instill values in children (Sewell-Shah, 1968:191).

In the older cohorts, conversely, father's occupation is more important than his education in directly accounting for respondent's educational attainment. However, a deeper examination of zero-order correlations (Table 22) reveals that these two variables are intercorrelated at .45 and .60 respectively in the fourth and fifth cohorts. With such high collinearity it is difficult to estimate the separate effects of each variable. Duncan-Featherman-Duncan (1973:42) stated that this attempt to separate influence is 'hopeless' and the solution hence requires combining two variables into one.

Number of siblings has a negative impact on educational attainment for respondents of ages 15-44. Given that the upper class has experienced a lower rate of birth than the working class, economic reasons in effect underlie this

relation. Respondents of school age in the period immediately after the war until 1963 (5) faced a costly secondary and university level educational system, and consequently highly unequal educational opportunities.

The concentration of technical colleges and universities in Athens and a few of the other larger cities, accounts for the effects of respondent's residence on his education. Older respondents (35-64), having experienced greater inequalities of educational opportunities, exhibit higher direct effects (they vary from .113 to .207) than do younger (15-34) (.044 and .055 being the direct effects respectively).

Direct and indirect effects on occupational status fluctuate considerably among the variables and cohorts. A consistent finding, however, over all cohorts is that direct effects of sex are decisively lower than indirect effects, especially in the younger cohorts (6). This is accounted for by educational opportunity.

Equally consistent patterns over all cohorts are found with respect to respondent's residence until the age of fourteen. Direct effects of respondent's place of residence are essentially as large as the indirect effects on the respondent's occupational status. Residential community size and particularly a

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(5) Since 1963 education is granted free at all levels.

(6) Since the last cohort includes only 12 women, findings concerning sex are not taken into consideration.

classfication into 'city' and 'village' implies differential occupational compositions, and in general, a higher proportion of non-manual occupations (higher prestige) are found in cities (Mueller, 1974:653). Given that, apart from the family environment, a respondent completes his socialisation in the community, the findings indicate that residence equally influences educational attainment and occupational status.

The negative direct effects in the two extreme cohorts can be essentially accounted for by the distinctive composition of these cohorts. More precisely, in the first cohort the youngest respondents (15-18) from rural areas are more likely to be from lower classes, while in the last cohort there are many refugees from Asia Minor facing difficulties of settlement in a new environment, inevitably influencing their education and occupation.

The impact of family size on occupational status does not follow a pattern either in the magnitude of direct or indirect effects nor in the sign (positive or negative). The highest direct effect is found in the cohort 25-34 (P_{73} = -.129). It suggests that an increase in the number of siblings implies a decrease in occupational status not only indirectly (-.095) affecting education, but more directly (-.129), influencing other factors of the occupational achievement process. In the first cohort, on the other hand, both direct and indirect effects are very low and a possible interpretation is in terms of the considerably smaller family size.

The effects of father's education on occupational status are more indirect than direct in the first three cohorts. In the third cohort, however, direct effects of father's education are negative, implying that the higher the father's education, the lower the respondent's occupational status. A more likely explanation would be in terms of the period - Second World War - during which these respondents made their occupational choices. On the other hand, in the last two cohorts, direct effects are higher than indirect ones. This could partially be explained by the decisive parental role in a son's career choice, especially in rural areas in the pre-war period, though this is only speculation (Campbell, 1964:159-164).

The effects, both direct and indirect, of father's occupation on respondent's occupational status show an instability over cohorts, making their interpretation difficult. However, it should be mentioned that in the first, second and last cohorts, direct effects of father's occupation are higher than direct effects of his education on respondent's occupational status.

MODEL III

As was reported earlier, the weak explanation of occupational status by family background variables gives rise to the speculation that the basic model might not include certain other important variables.

First, occupational status (F.O.) has been found to play a crucial role by a number of authors (Blau-Duncan, 1967:

167-168, Duncan-Featherman-Duncan, 1973:205-209) in determining present occupational status. Trends such as a move from a lower occupational status to a higher one along with the closer association of the first occupation with family background variables are some of the main findings of these enquiries.

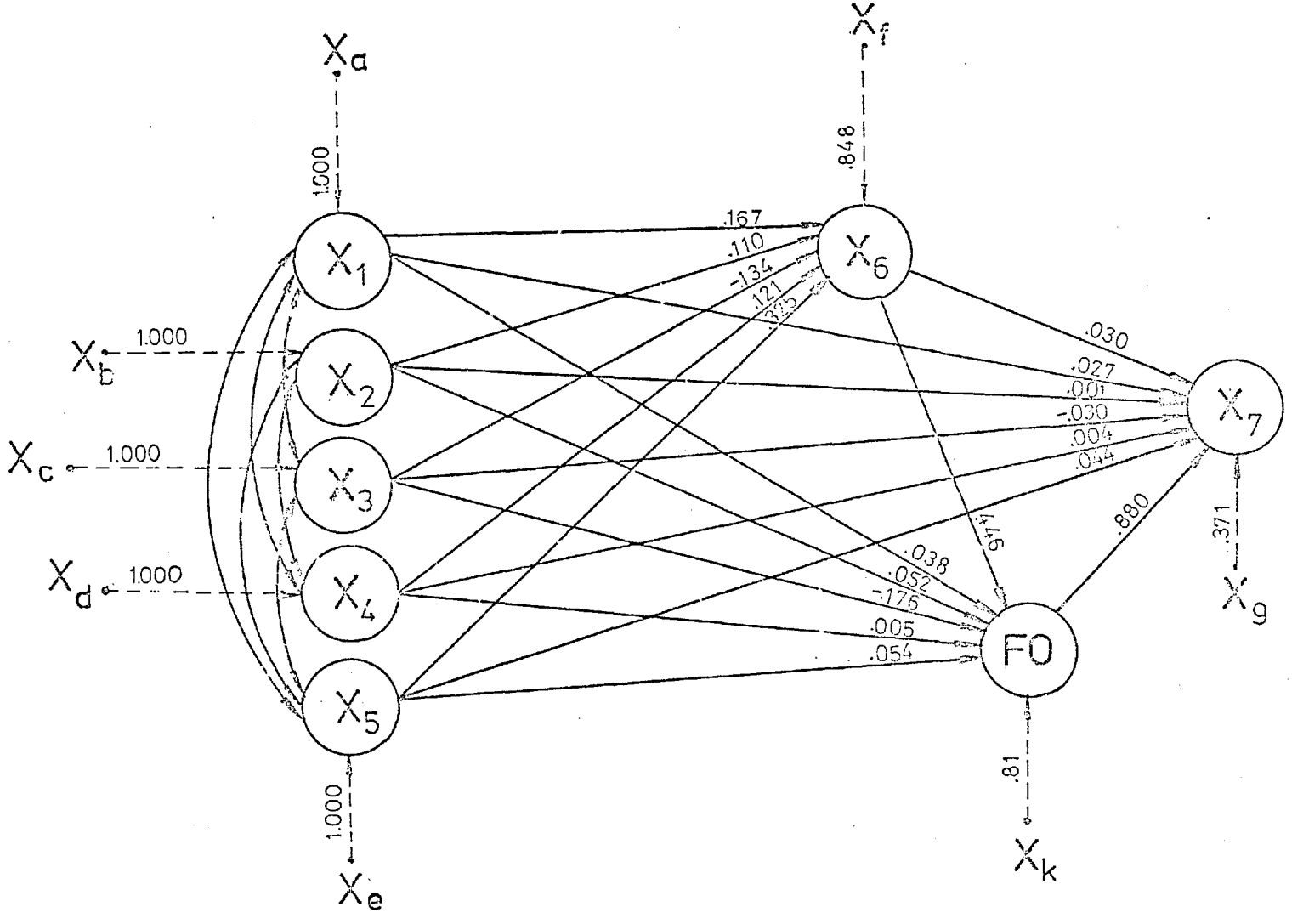
In this study the variable concerning the status of respondent's first occupation (F.O.) was taken into consideration by Model III. However, this information was not available for the whole sample but for a sub-sample of 376 respondents who entered the labour market after 1965 (information derived from question 12 of the questionnaire 1 see Appendix A1). Thus this sub-sample is mainly found in the two youngest cohorts (95% of the initial population of the first cohort and 50% of the second) inasmuch as respondent's selection met the timing of entry criterion in labour market.

Path Diagram III reveals that the first occupation appears as intervening variable between education and present occupation. However, this ordering is ambiguous in so far as a number of respondents - especially in the first cohort - continue their education or interrupt their education to enter the labour market and later return to schooling.

As indicated in Table 27, the status of the first occupation accounts for a considerable proportion of variation in current occupational status, particularly in the second cohort (P_7 = .88).

FIGURE 4. PATH DIAGRAM (MODEL III)

COHORT 25-34



X_1 = FATHER'S EDUCATION
X_2 = -"- OCCUPATION
X_3 = NUMBER OF SIBLINGS
X_4 = PLACE OF RESIDENCE
X_5 = SEX
X_6 = RESPONDENT'S EDUCATION
FO = -"- FIRST OCCUPATION
X_7 = -"- CURRENT -"-

X_a - X_k = RESIDUALS

TABLE 27 Partial Regression Coefficient in Standard Form for Relationships of First and Current Occupational Status to Family Background Factors in the First Two Cohorts and in Total Sub-Sample[a]

	X_1	X_2	X_3	X_4	X_5	X_6	First Occup-ation	R^2	N
15-24									209
X_6 (Education)	.230	.070	-.108	.038	.311			.194	
First Occupation	.044	.156	.021	-.013	-.059	.447		.345	
X_7 (Current Occupation)	-.028	.110	.021	-.162	.026	.099	.677	.569	
25-34									112
X_6 (Education)	.167	.110	-.134	.121	.325			.280	
First Occupation	.038	.052	-.176	-.005	.054	.446		.341	
X_7 (Current Occupation)	.027	.001	-.030	.004	.044	.030	.880	.862	
Total Sub-Sample									376
X_6 (Education)	.209	.128	-.091	.109	.358			.278	
First Occupation	.049	.132	-.021	-.052	-.024	.496		.308	
X_7 (Current Occupation)	-.017	.076	-.003	-.058	.015	.088	.754	.677	

Variables X_1, X_2, X_3 ... X_7 as previous notation.

a: The total sub-sample includes a number of respondents (15%) allocated over the other cohorts besides the first two mentioned.

The status of the first occupation is identically affected in both cohorts by educational attainment ($P_{F.O.,X_6} = .447$) being slightly higher in the total sub-sample ($P_{F.O.,X_6} = .496$). To a lesser extent in the first cohort, first job is influenced by father's occupation ($P_{F.O.,X_2} = .156$), and the second cohort by the number of siblings ($P_{F.O.,X_3} = -.176$).

On the other hand, though current occupational status is mainly explained by the status of the first occupation, considerable differences exist in the degree to which this is so between cohorts. In the first cohort, the direct effect of status of the first occupation on the current occupational status is: $P_{X_7,F.O.} = .68$ as against $P_{X_7,\ F.O.} = .88$ in the second cohort.

In the youngest cohort respondents follow the general pattern whereby they move from lower status occupations to higher ones. As occupational status averages reveal the increase from a score of 24.81 for the status of the first occupation to 26.98 for the current occupational status (Table 28) cannot be attributed only to sampling fluctuations. It further suggests that younger respondents do find it easier than older ones to change occupation, though intergenerational occupational immobility is remarkable. Conversely, in the second cohort the average status of these two points of occupational history are essentially the same and apparently extremely high immobility underlies these respondents. The same line of arguments accounts for the high correlation coefficient between first and current occupational statuses ($\rho = .925$) (Table 28).

TABLE 28 Zero-Order Correlation Coefficients Between Status of the First Occupation and the Family Background Factors in the First Two Cohorts and the Total Sub-Sample and Means and Standard Deviationsof Status of the First Occupation

	15-24	25-34	Total Sub-Sample
X_1	.210	.249	.243
X_2	.241	.292	.284
X_3	-.105	-.343	-.163
X_4	.087	.211	.110
X_5	.063	.246	.175
X_6	.460	.547	.534
X_7	.728	.925	.814
First Occupational Status: Mean	24.81	37.32	27.63
S.D.	19.73	21.35	20.99
Current Occupational Status: Mean	26.98	37.68	28.83
S.D.	21.23	21.48	21.57

X_1 = Father's education

X_2 = Father's occupation

X_3 = Number of siblings

X_4 = Place of residence

X_5 = Sex

X_6 = Respondent's education

X_7 = Respondent's occupational status

Thus both mean scores and high correlation coefficients between these two variables suggest that whether respondents in their overwhelming majority have not changed occupation in their career or indeed, whether they have changed they remain in similar occupations as far as status categories are concerned. In fact, the majority have actually remained in the same occupation.

A more probable explanation for such a high occupational immobility would be in terms of market characteristics, since when respondents entered the labour market, approximately in the middle of the sixties, they had to face sharp unemployment (hence the high rates of migration during this period) (Fakiolas, 1969:38-40). Therefore, once they got a job they had no opportunities in effect to change it. Furthermore, since they stayed for a relatively long period (5 or more years) in the same occupation, the pattern is likely to continue (Blumen et al, 1955:30). In addition, there is the point that one must expect some inaccuracies about respondent's job history when information for a ten-year period is required.

However, while an interpretation of respondent's occupational immobility in this cohort is adequately justified by contemporary economic conditions, the high influence of the first occupational status on current occupational status needs a further comment. Since, as it was shown, there are no substantial differences in current and past occupational status the question arises how can first occupational status affect the current occupational status. Apparently the

conceptualisation of these two variables needs a deeper examination. We need to distinguish between the situation where the first occupation is a perfect predictor of the present occupation (i.e. r = 1 or -1) and, on the other hand, where the first occupation is in perfect agreement with the present occupation. This distinction seems important. In the first case we only require that the first occupation enables us to predict perfectly what the present occupation is, irrespective of whether it is the same one or not. In the second case, the stipulation is more restrictive, we require not only that we gain perfect predictability but that the unit of analysis (i.e. the individual) has the same occupational cateogory at the present as he had in the past.

In summary, the preceding path analysis in an attempt to explain the respondent's occupational status by a number of family background variables suggested:

(a) The variables used accounted for 20% to 40% of the variance in respondent's occupational status.

(b) Differences in success of prediction occurred with respect to age cohorts; in the three middle ones the percentage of the variance explained was highest.

(c) Educational attainment remained the fundamental source of occupational achievement over cohorts.

(d) Respondent's educational attainment is mainly affected by his sex and in second place by father's education and

occupation, number of siblings and place of residence. But effects of these variables vary considerably between cohorts.

(e) The status of the first occupation though was found to play a crucial role in current occupational status, but its effects are questionable in terms of the manner of conceptualisation of these two variables.

APPENDIX: OCCUPATIONAL ACHIEVEMENT PROCESS BY SEX

The differences that underly male and female educational and occupational patterns - as demonstrated in the intergenerational mobility section - lead to the expectation that occupational achievement process of males should be differentiated from that of females. Therefore in this context an analysis of the process of occupational status in terms of respondent's sex acquires a particular interest.

In this analysis the same set and ordering of variables as in Model II have been used with a replacement of variable X_5 (sex) by respondent's age on a five-point interval scale. Path coefficients and direct and indirect effects of family background and personal characteristic variables on occupational status are displayed in table I_A and I_B.

In general males and females follow a similar pattern, insofar as the ordering of explanatory variables in terms of their significance in accounting for occupational status is concerned. However, the independent variables account for a greater proportion of variance in females' status than in males' status (R^2= 36% of females opposed to 21% of males). From a different viewpoint both direct and indirect effects are higher for females than for males. This surprisingly suggests

TABLE I_A PATH COEFFICIENTS (Partial Regression Coefficients in Standard Form) BY SEX

Depen. \ Indepen.	X_1	X_2	X_3	X_4	X_5	X_6	R^2
Males							
X_6	.167	.124	-.115	.054	-.229	-	.206
X_7	.006	.025	-.006	.033	.057	.461	.213
Females							
X_6	.256	.129	-.138	.149	-.321	-	.353
X_7	-.023	.178	-.019	.036	.139	.569	.357
Total							
X_6	.198	.126	-.123	.087	-.261	-	.212
X_7	-.005	.074	-.014	.010	.087	.505	.266

TABLE I_B DIRECT AND INDIRECT EFFECTS OF EXPLANATORY VARIABLES ON OCCUPATIONAL STATUS BY SEX

Depen \ Indepen.	X_1	X_2	X_3	X_4	X_5	X_6
Males						
Direct Effects	.006	.025	-.006	.033	.057	.461
Indirect "	.077	.057	-.053	.025	.106	-
Females						
Direct Effects	-.023	.178	-.019	.036	.139	.569
Indirect "	.146	.073	-.078	.085	.183	-
Total						
Direct Effects	-.005	.074	-.014	.010	.087	.505
Indirect "	.099	.063	-.062	.044	.132	-

X1 = Father's Education
X2 = Father's Occupation
X3 = Number of Siblings
X4 = Respondent's place of Residence
X5 = Respondent's Age
X6 = Respondent's Education

that the residual factors i.e. variables which have not been taken into consideration in this model, play a more crucial role for males than for females.

Educational attainment remains the fundamental source of determination for both male and female occupational status, but for females this factor acquires more significance since direct effects are considerably higher than for males (.569 against .461 for males). The interpretation of this difference warrants further study concerning the context of various occupational roles in terms of educational requirements. Nevertheless one may speculate that features such as specialisation, experience, skill or even physical strength necessitated by certain occupations will be more important for males than for females.

Father's education influences females' educational attainment more than for males (.256 against .167 for males). The direct effects of this variable on occupational status are negligible for both males and females but indirect effects are as much as twice for females as for males (.146 opposed to .077 for males).

The impact of father's occupation on respondent's education and occupational status does not follow a constant pattern over sex. Thus, father's occupation equally affects educational

attainments of males and females. But the influence on occupational status is decisively higher for males than for females (.178 against .025 for females). Furthermore, father's occupation affects female's occupational status more directly than indirectly (.178 opposed to .073 for indirect effects), while the inverse pattern holds for males.

The family size negatively influences educational attainment and occupational status of both sexes. The effects are mainly encountered on educational attainment and are higher for female respondents. This from a somewhat different viewpoint suggests much higher indirect than direct effects on occupational status (-.078 against -.019 for females and -.053 opposed to -.006 for males).

Geographic origin (particularly urban and rural discrimination) influences females' education and occupational status more than for males. The difference is pronounced in the case of females' educational attainment, the effects being three times higher than in the case of males. On occupational status the effects of geographic origin are the same for both sexes.

Respondent's age irrespective of sex has a negative effect on education in the sense that the younger the respondent the higher his educational attainment. Females' age impact on educational attainment is considerably higher than males'.

Age effects on occupational status are positive for both sexes but much higher for females than for males (.139 against .057 for males). On the other hand indirect effects of age on occupational status are considerably higher than direct ones, for both males and females.

The interpretation of direct and indirect effects of all these variables on education and occupational status are discussed in detail in previous sections. Briefly, one can say that females' occupational achievement process is closely related to economic conditions and social values, concerning their occupational role in Greek society. Thus females more educated and higher occupational status fathers, originate from urban areas and from small families and being younger are more likely to acquire better educational attainment and practise occupations of higher status.

This analysis furthermore leads to the conclusion that the model used fits better for females than for males in explaining occupational status.

People as a rule do not stay permanently in one position during their whole life. Movements from one occupation, employer or geographic area to another - to mention but some - predominate in individual's career. These intragenerational flows have been studied less than intergenerational mobility. However, in both cases occupation dominates, and the close relationship between inter- and intragenerational movements insofar as occupation is concerned is widely recognised.

Intragenerational flows have recently acquired a special interest in mobility studies and have been incorporated in such studies, since the traditional manner of considering mobility as a matter of describing movements, has been turned to account for such movements in the context of society. Thus many scholars are engaged in accounting for occupational status not only by means of the individual's family background and/or environmental factors but in addition by status of his previous occupations (see among others: Blau-Duncan, 1967; Duncan et al, 1972; Sewell-Hauser, 1975 and also Chapter IV of this study).

Individuals change occupation or employer at any time and therefore many such points distinguish their career. Different individuals have made a different number of moves at any given time and consequently we find no fixed time interval between successive moves. This implies greater difficulties in studying intragenerational trends compared with inter-generational ones, particularly when stochastic processes models are used (Bartholomew, 1975:43).

Industrial mobility is mainly of intragenerational type. Movement of workers among occupations, employers and industries have long posed one of the most important topics of industrial trends and have found practical interpretation in manpower planning and labour market economics.

Industrial movements either as inter-sector flows, that is, movements between agriculture, manufacturing trade etc. or inter-industrial branch changes (branches defined by two-digit or broader classification, see Appendix B2), and particularly movements between various occupational groups are influneced by, and in turn affect, social structure. The level of industrialisation of the country plays a crucial role in such movements since in advanced industrialised societies flows mainly take place within and between industrial branches. Conversely, for countries in the process of industrialisation inflows, especially from agriculture, to industry are observed.

Individuals move from one job to another either voluntarily, because they aspire to better conditions (financial advancement, improvement of working conditions etc) or involuntarily, because of dismissal (Sørensen, 1975:460). Voluntary movements presuppose that (i) vacancies exist in the social spectrum, and (ii) individuals possess the proper qualifications to fill existing vacancies. As it is obvious, both voluntary and involuntary changes are related to social structure and dominated by labour market conditions in the sense that

increased demand of labour facilitates voluntary flows and, conversely, labour surplus favours involuntary movements. Voluntary flows aiming at the individual's improvement are expected to result in an upward movement. Considering mobility as a continuous process, once the individual has arrived at a higher position he (naturally) looks for further advancement. Even if he remains there permanently he acquires some characteristics as a result of this new position which will affect both him and his successors (education, occupation and aspiration for advancement of successors to a large extent are influenced by father's status). Therefore the more frequent the voluntary flows, the more significant will be changes in the social structure.

In this study intragenerational mobility is restricted to inter-industrial movements and in this context the following will be studied: (i) job changes during respondent's life, (ii) industrial movements during the period 1965-1974, and (iii) reasons motivating respondents to change or stay in the same job.

1. JOB CHANGES DURING RESPONDENT'S CAREER

1.1 The Number of Job Changes

'Job' is often confused with 'occupation'. For people of lower levels of prestige - for instance - labourers, jobs are specified simultaneously by the function they practice and

the employing organisation. For individuals of higher prestige, job coincides with an explicit title of occupation, say: doctor, architect etc. In this study, as employees are engaged in the manufacturing sector and the overwhelming majority enjoy low prestige being labourers, 'job' is defined as meaning an employing organisation, and thus it has a synonymous meaning as 'employers'.

White (1970:245) considers jobs as a "simple concrete case of social positions" since job portrays an individual's social status. Reiss (1961: 10-11), on the other hand, suggests that the work situation plays a role in determining occupational status, and furthermore, social position. Thus institutional setting of the work gives factory a lower status than an office and small firms lower prestige than big companies. In Greece, though no systematic study on this topic exists, the daily experience put public employment on a higher level of status than private in terms of higher rewards (F.G.I., 1974:86-89), and for the security that employees enjoy as well as relative authority they exercise.

The number of job changes that individuals experienced during their careers depends upon their personal characteristics and the structure of the society. In particular, vacancies are assumed to be determined by the economic level and the social structure of the country. The manner in which they are fulfilled is defined by the individual characteristics

such as sex, age, marital status, education, occupation etc. This process presupposes that a meritocracy dominates in social life and thus only individuals' qualifications are taken into account in the filling of vacancies. Nevertheless in practice meritocracy is questionable since social 'inheritance' factors, especially in developing countries, exert a powerful role on occupational movements (see Chapter II: Intergenerational Trends).

Tables 29, 30, 31 give trends of job changes insofar as respondents' characteristics are concerned. There are some points concerning these figures that seem worthy of note:

(i) 'Movers', that is, those respondents who have made at least one job change before arriving at the present job, are in the overwhelming majority in this sample (74%).

(ii) The number of job changes is related to 'movers' respondents with a negative linear function (see Diagram 5), that is, an increasing number of job changes corresponds with a decreasing number of such movers.

(iii) Males have been found to move more than females. In general an inverse pattern underlies females' job changes; there are more 'stayers' (no moves in their career), and more with only one job change, while more males are found to have a higher number of job changes. This pattern suggests that sex and number of job changes are not independent (X^2 = 46.8 5 df .000) but have a fair degree of association (Cramer's V = .25).

FIGURE 5. NUMBER OF JOB CHANGES

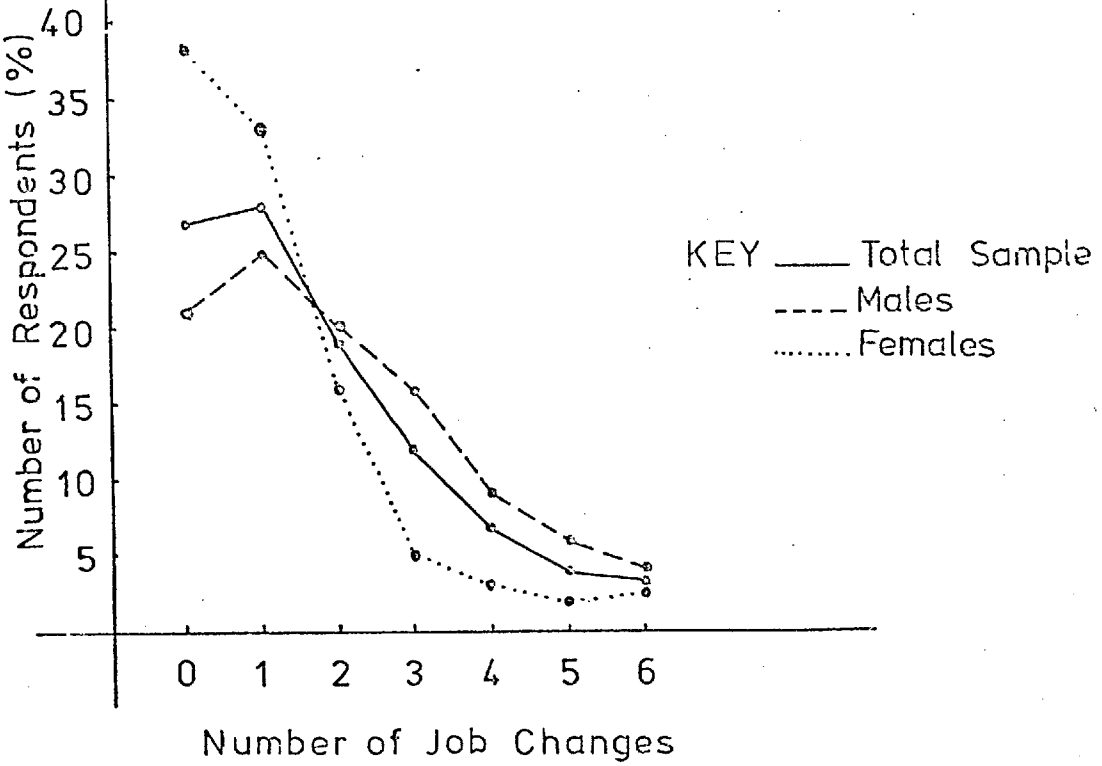


Table 29 Distribution of Job Changes According to Respondent's Sex, Marital Status, Place of Residence, Occupation (in Percentages)

	SEX		MARITAL STATUS		PLACE OF RESIDENCE		OCCUPATION		TOTAL SAMPLE	
	Males	Females	Single	Married Divorced Widowed	Urban Areas	Rural Areas	Non-Manual	Manual	%	N
0	20.5	37.8	37.6	19.5	26.7	25.8	31.1	24.5	26.4	268
1	25.5	32.8	30.6	26.0	27.5	28.5	28.3	27.5	28.0	285
2	20.2	15.8	16.1	20.1	16.6	21.7	20.3	17.9	18.5	188
3	16.0	5.4	8.8	14.9	11.4	13.9	12.9	12.4	12.3	125
4	8.9	3.1	3.4	9.4	8.2	5.6	3.5	8.5	6.9	70
5	5.7	1.7	3.4	4.6	5.6	2.0	2.1	4.9	4.4	45
6+	3.2	3.4	0.1	5.5	4.0	2.5	1.7	4.3	3.5	36
x^2	46.796		34.825		15.575		14.890			
d f	5		5		5		5			
Level of Significance	.000		.000		.008		.011			
Cramer's V	.2499		.2156		.1460		.1410			

Table 30 Distribution of Respondents' Number of Job Changes (in Percentages) According to their Age

Number of Job Shifts	A G E S					TOTAL
	15-24	25-34	35-44	45-54	55-64	
0	38.43	25.75	22.39	9.33	4.10	100.0
1	22.81	27.37	16.49	23.86	9.47	100.0
2	22.87	21.28	29.79	17.55	8.51	100.0
3	17.60	20.80	24.80	21.60	15.20	100.0
4	7.14	22.86	25.71	32.86	11.43	100.0
5	8.89	20.00	24.44	28.89	17.78	100.0
6+	-	16.67	30.56	33.33	19.44	100.0

Table 31 Distribution of Respondents' Number of Job Changes (in Percentages) Within Their Age Groups

Number of Job Shifts	A G E S				
	15-24	25-34	35-44	45-54	45-54
0	42.56	28.28	25.64	12.44	11.46
1	26.86	31.96	20.09	33.83	28.13
2	17.77	16.39	23.93	16.42	16.67
3	99.09	10.66	13.25	13.43	19.79
4	2.07	6.56	7.69	11.44	8.33
5	1.65	3.69	4.70	6.47	8.33
6	-	2.46	4.70	5.97	7.29
TOTAL	100.00	100.00	100.00	100.00	100.00

(iv) Marital status, given by a dichotomous classification: single and non-single (married, divorced, widowed - since the number of divorced and widowed is extremely low) is also found to be significantly related to the number of job changes (X^2 = 34.8 5 df .000 and Cramer's V = .21). Almost twice as many single as non-singles have been found to be 'stayers', though one should expect to find the reverse. A possible explanation lies in the fact that since the non-single have to face family responsibilities they intend, by changing their job, to improve their position.

(v) Respondent's origin from rural or urban areas affects the number of job changes (X^2 = 15.57 5 df .01, Cramer's V = .15). The pattern shows that more respondents from rural areas have changed from one to three jobs while more respondents from urban places have changed three or more jobs.

(vi) The pattern concerning occupation, which was dichotomised into manuals and non-manuals, reveals that manual workers move more than non-manual workers. It must be stressed, however, that the categorisation into these two broad occupational groups was based upon present occupation, making the assumption that respondents followed a constant line from their previous jobs, insofar as their grouping into manuals and non-manuals is concerned. This assumption may be erroneous; however, the fact that intragenerational occupational mobility has been found to be extremely low (see Chapter IV, Model III) suggests this assumption holds fairly well. The relationship between the number of job

changes and manuals and non-manuals, suggests that, although it can be considered significant (X^2 = 14.89 5 df, .01 and Cramer's V = .14) it is of less importance than the relationship between the number of job changes on the one hand, and sex and marital status variables on the other (compare X^2 in Table 29).

(vii) The number of job changes is also affected by respondent's age (r = .270, p =.01). The youngest age group (15-24) contains the highest percentage (38%) of 'stayers' (see Tables 30, 31). Conversely, the number of job changes that movers have made increases gradually as age increases almost in a regular pattern: thus the highest percentage of 'movers' making one change is found in the age group 25-34. The corresponding percentage of two or three changes is met in the cohort 35-44 and, finally, the ages 45-54 concentrate the highest percentages for four or more changes. Furthermore, the highest percentage of the 'number of job changes' distribution (Table 31) within each age group, are found either in the category of 'stayers' respondents or in 'movers' who have experienced only one move.

These patterns have shown that personal characteristics affect the number of job shifts; but how much these characteristics account for the variation of the number of job changes as shown by a multiple regression additive model (with interaction terms). The variables concerned have been the following:

Y = Number of job changes treated as dependent variable

X_1 = Sex

X_2 = Age

X_3 = Marital status

X_4 = Occupation (non-manuals, manuals)

X_5 = Place of residence (urban-rural area) of respondents until the age of fourteen.

The contribution of each indedependent variable to the variation of the number of job changes is given by the following regression coefficients of a standardised form:

$$Y = .24663\ X_1 + .17527\ X_2 - .07972\ X_3 - .03245\ X_4 + .12605\ X_5 - .09772\ X_4\ X_5 - .03952\ X_1\ X_2\ X_3$$

$$(R^2 = .16232)$$

This regression suggests: (i) respondent's sex, age and geographic origin mainly account for variation in the number of job changes, since they show the highest regression coefficients, and (ii) marital status, occupation and interaction terms negatively influence the variation of the number of job changes; that is, in an increase of these explanatory variables corresponds with a decrease in the number of job changes.

We should note that only 16% of the total variation is explained by personal characteristic variables which suggests that other factors, most probably labour market conditions,

the economic rewards that each job entails and the individual's needs, are additional factors which influence respondents' decision for moving.

1.2 Respondents' Duration in Each Job

The time that the respondent spends in each job is directly related to the number of job changes that he has experienced during his career. Mean duration in each job indicates (Table 32) that a monotonic decreasing pattern underlies the number of job changes insofar as duration in each job is concerned. Thus mean stay is higher where there is a smaller number of job changes than where there is a larger one. Nevertheless, a longer time is spent in the first job ($\bar{X}_1$ = 5 years) than in successive jobs ($\bar{X}_2$ = 1.7 years) (1).

Furthermore, the distribution of 'durations' shows a right skewness and high peakedness which in turn suggests that deviations from the normal distribution, and consequently irregularities, underly 'duration' as the number of job changes gradually increases.

Relating this to age (Table 33) reveals that the period of employment at the second job is of equal duration as in the first job for half of the respondents (54%) in the first age group (15-24). The greater proportion of the remainder of

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(1) If in the calculation of mean in the first job change were taken only those respondents who, having arrived there, stayed permanently in this job, the absolute value of mean increases approximately twice ($\bar{X}_1$ = 10.47 years) (see Appendix D12).

Table 32 Summary Measures (Mean, Standard Deviation, Skewness, Kyrtosis) Concerning Respondents' Duration in Jobs (Movers Respondents)

Number of Jobs	Mean (in Years)	Standard Deviation	Kyrtosis B_2	Skewness B_1	Number of *Respondents
1	5.026	7.910	7.424	2.632	748
2	1.722	3.333	22.581	3.836	467
3	1.138	3.117	24.525	4.704	278
4	0.468	1.518	31.030	4.965	151
5	0.316	1.735	87.721	8.650	82
6+	0.093	0.751	120.305	10.010	59

* Indicates the number of respondents found in each job irrespective of whether they stayed at a certain job or moved to another.

Table 33 Patterns Duration of Movers from One Job to The Next by Group of Ages

Duration Comparisons	GROUP OF AGES				
	15-24	25-34	35-44	45-54	55--64
FIRST TO SECOND JOB					
Same Duration	54.05	20.62	27.64	19.45	18.64
Longer Duration	24.32	41.24	43.90	44.44	64.41
Shorter Duration	21.63	38.14	28.46	36.11	16.95
SECOND TO THIRD JOB					
Same Duration	50.62	23.64	26.76	29.73	20.45
Longer Duration	20.47	34.54	43.66	29.73	27.77
Shorter Duration	10.91	41.82	29.58	40.54	52.28
THIRD TO FOURTH JOB					
Same Duration	70.00	9.68	33.33	22.92	20.00
Longer Duration	10.00	48.39	38.09	31.25	70.00
Shorter Duration	20.00	41.93	28.58	45.83	10.00

respondents who changed from a first to a second job, spend a longer period of time in the second job. This is especially true of the oldest respondents (41% to 44% for age groups 25 to 54).

Those remaining make successive movements from second to third and third to fourth job that hardly can be considered to follow a general trend. Thus respondents seem to decide to change jobs as circumstances dictate irrespective of their previous duration of stay in jobs.

1.3 Classification of Jobs into the Sectors of Economic Activities

The most important topic directly related to the social structure concerns respondents' exchanges within and between sectors of economic activities since these sectors suggest broad social strata.

The manufacturing sector prevails in all job shifts (see Table 34) with a gradual increase as the number of job shifts increases (54 percent in the first shift to 76 percent in the fifth). In the case of a single shift a considerable percentage (23%) of respondents come from the agricultural sector. These respondents show stability since they contend themselves only with one shift. Explanations rest upon various assumptions, we could argue for example that having to face many difficulties in adjustment in the new environment they have insufficient confidence to experience the further complications that a new job implies. Furthermore, in periods of high unemployment they

Table 34 Distribution of Jobs into Sectors of Economic Activities (in Percentages)

Sectors of Economic Activities	NUMBER OF JOB SHIFTS					
	1	2	3	4	5	6
Agriculture - Livestock	22.8	1.6*	5.6*	4.6*	2.2*	-
Manufacturing	54.4	64.7	59.2	74.2	75.6	73.1
Trade	12.1	6.8	10.4	16.7	2.2*	-
Services	6.8	13.2	9.6	1.5*	2.2*	11.5*
Miscellaneous	3.9	13.7	15.2	3.0*	17.8*	15.4*
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

* Absolute Frequencies ≤ 1.0

have few opportunities in their new environment to find vacancies. An explanation may lie also in the psychological stability that a rural environment cultivates which may follow respondents through life. But this is speculation only.

A picture of 'movers' from one job to the next between and within the sectors of economic activities by sex and age is given in the Table 35. An almost constant pattern is found as far as moves within the same sector is concerned (percentages varying from 56% to 59%) but considerable differences are shown by age group. Nevertheless a pattern can be drawn suggesting that moves within the same economic sector are more frequent in younger ages than in the older ones, especially in the exchange of first job for second and second job for third. Moreover, movements within industry absorb the overwhelming majority of 'within sector' moves. It is apparent that the manufacturing industry contains large 'openings' since the country continues to be in the process of industrialisation. In addition, the fact that the survey was carried out in the manufacturing sector emphasises this pattern.

Making the assumption that economic sectors indicate broad social strata, Yasuda's Index can be applied to determine the overall exchanges between sectors. For movements from the first job to the second and from the second to the third, Yasuda's Index gives a satisfactory approximation of inter-sector mobility; but for third job change to the fourth,

Table 35 Movers' Exchanges from One Job to the Next Between Sectors of Economic Activities by Group of Ages, and Sex (in Percentages)

	GROUP OF AGES					SEX		Total Sample
	15-24	25-34	35-44	45-54	55-64	Males	Females	
FIRST TO SECOND JOB								
Moves within the same sector	67.12	65.98	56.69	43.52	50.88	55.01	62.10	56.47
Moves within industry	60.27	52.58	49.61	34.26	42.11	45.26	54.74	47.20
Yasuda's inter-sector mobility index	65.25	59.93	78.42	77.76	69.66	71.54	72.41	71.97
SECOND TO THIRD JOB								
Moves within the same sector	67.74	63.16	53.52	62.16	52.27	55.98		59.12
Moves within industry	58.06	52.63	50.70	50.00	40.91	47.86	*	50.73
Yasuda's inter-sector mobility index	66.15	73.59	97.76	52.41	56.58	80.35		77.48
THIRD TO FOURTH JOB								
Moves within the same sector	77.78	48.39	51.28	66.67	54.55	53.91		58.39
Moves within industry	77.78	48.39	51.28	58.33	45.54	50.78	*	53.69
Yasuda's inter-sector mobility index	*	*	*	*	*	90.72		84.94

* small frequencies or rectangular mobility tables.

the number of respondents broken down in age groups is considerably lowered and rectangular tables are obtained, thus Yasuda's Index cannot be applied. This Index follows a pattern for the whole number of 'movers', showing gradual increase of mobility as they move from a lower number of job changes to a higher, but no unique trends are present in inter-cohorts comparisons. We can merely say that from first to second job overall inter-sector mobility is higher for older age groups than younger ones, while the inverse pattern holds in the case of changes from second job to third.

A comparison between males and females only in the youngest age group where adequate data for females allowed the calculation of the summary measures, reveals that females move within the same sector, and particularly within industry, more often than males, but at the same level of the Index of the whole 'movers'.

2. MOVEMENTS DURING THE PERIOD 1965-1974

2.1 Inter-Sector Movements

In the previous section it was found that although employees have experienced many job changes during their career, to a large extent they have moved within the industrial sector and therefore can hardly be considered to affect the social structure. In this section the enquiry is directed towards

discovering industrial mobility patterns during the period 1965-1974 which coincides with the highest rate of industrialisation for the country.

It is clear that, as the framework of the survey is limited to manufacturing, the overwhelming majority of respondents will be classified in the manufacturing sector (1); however, the number of respondents in the manufacturing sector constantly decreases as the years prior to 1974 are considered (100% in the year 1974 against 73.8% in 1965, see Appendix D21).

The same picture is shown if one examines mobility in the years preceding 1974, and so forth (Table 36). Yasuda's Index of overall mobility decreases within the years 1974-1965 (15.25 in 1973-72 against .81 in 1966-1965). This may be alternatively expressed as an increasing pattern of immobility which in general is found to be extremely high (94.8% in 1973-1972 against 97.2% in 1966-1965). The inverse pattern holds for 'industrial immobility' (91.9% in 1973-1972 compared to 73.9% in 1966-1965).

One can suggest that the number of 'new-comers' each year in the labour market will operate to confuse the clear pattern of mobility of successive years. However, working with 634

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(1) Since only 27 respondents reported two or more job changes during one calendar year for reasons of simplicity only the job change of the longest duration was considered.

Table 36 Summary Measures of Respondent's Inter-Sector Mobility and Immobility For the Period 1965--1974 (Annual Base)

Time Period	All Respondents			Respondents Working At Least the Last Ten Years		
	Immobility	Industrial Immobility	Yasuda's Mobility Index	Immobility	Industrial Immobility	Yasuda's Mobility Index
1974-1973	-	-	-	-	-	-
1973-1972	94.8	91.9	15.25	95.4	93.3	21.22
1972-1971	94.7	89.0	16.77	96.3	91.0	7.39
1971-1970	94.9	85.9	9.15	95.6	87.5	8.21
1970-1969	94.3	81.8	4.86	96.0	84.1	3.88
1969-1968	96.8	78.9	2.82	97.0	82.3	2.61
1968-1967	97.5	78.7	3.19	98.5	81.4	.57
1967-1966	97.0	76.1	1.74	97.7	79.1	1.53
1966-1965	97.2	73.9	.81	97.7	77.0	.93

respondents who entered the labour market before 1965 and therefore have a common base for comparison of at least ten years of employment, the trend indicates an even higher immobility when compared with the total sample of respondents in each year (Table 36). Yasuda's mobility index was also found lower in this sub-sample with an exception in the year 1973-72 (21.22 against 15.25 of the whole sample). This indirectly supports the assumption that the longer one stays in a job the less probable is a move (McGinnis, 1968).

Examining mobility patterns of the successive years by respondents' age (Table 37), a not particularly well defined trend during this decade is shown in the various age groups (see also Appendix D22). This in turn indicates that age does not crucially affect immobility during this period. Furthermore, the data suggest that this period of industrialisation is not in general characterised by mass movements from the other sectors towards industry as one might expect. This provides support to the finding that despite the large increase of the manufacturing sector in terms of production, invested capital and contribution to the national income, it is not accompanied by a proportional increase of industrial employment in the post-war period (FGI, 1974:1-2).

Nevertheless this whole period seems to be divided into two parts, the period 1965-1970 with extremely low

Table 37 Respondents' Immobility and Particularly Immobility in Industrial Sector For the Period 1965-1974 in Annual Base By Cohorts

Successive Years	GROUP OF AGES									
	15-24		25-34		35-44		45-54		55-64	
	Immob.	Ind. Immob.	Immob.	Ind. Immob.	Immob.	Ind. Immob.	Immob.	Ind. Immob.	Immob.	Ind. Immob.
1974-1973	-		-		-		-		-	
1973-1972	.90	.85	.93	.93	.97	.95	.95	.91	.98	.97
1972-1971	.94	.80	.95	.89	.97	.92	.93	.87	.96	.94
1971-1970	.90	.89	.92	.87	.96	.90	.94	.82	.95	.89
1970-1969	.90	.72	.97	.83	.98	.86	.97	.78	.95	.84
1969-1968	1.00	.61	.97	.79	.97	.86	1.00	.74	.98	.81
1968-1967	1.00	.73	.95	.80	.96	.84	.98	.73	.99	.78
1967-1966	1.00	.78	.95	.71	.98	.79	.99	.72	.95	.71

Key: Immob. = Immobility

Ind. Immob. = Industrial Immobility

mobility and the period 1970 onwards when mobility relatively increased. The former period is characterised by high unemployment and a probable explanation of lower mobility rests upon this in the sense that unemployment prevents voluntary movements. Conversely, in the latter period a shortage of labour (see Section : Review of Studies Conerning Mobility in Greece: Kousis, Mitsos, Polyzos and Pagalos works - also FGI, 1974:15) which is reflected in higher rewards and in general creates job openings, motivates respondents to a greater degree of movement. This trend was further facilitated since the reception countries of Western Europe to which a considerable part of labour force was driven, started to experience the first symptoms of unemployment and thus Greeks intending to migrate mainly from the agricultural sector had to turn towards the local labour market.

2.2 Inter-Industrial Branch Movements

Since the majority of employees are in the manufacturing sector, their inter-industrial branches movements are of special interest. Using the two-digit classification of industries (see Appendix B2), a high immobility characterises this period, following the same pattern as in the inter-sector movements. In general, immobility is slightly higher in the period 1965-1970 compared to that of 1971-1974 (Table 38). Women, on the other hand, show a higher mobility than men but still have a low level of movement.

Table 38 Inter-Intra Industrial Branch Mobility in the Period 1965-1974 by Sex

	1974-1973	1973-1972	1972-1971	1971-1970	1970-1969	1969-1968	1968-1967	1967-1966	1966-1965
Immobility or Moves Within the same branch (Two-Digit Classification)	93.4	92.3	91.4	95.3	96.4	95.5	96.2	95.4	97.1
Immobility or Moves Within the same group of branches									
Males	95.3	96.3	95.6	97.1	98.0	97.3	97.5	96.1	98.0
Females	94.4	95.6	93.2	95.0	96.3	95.0	95.4	98.3	98.2
Total	94.9	96.1	94.8	96.5	97.5	96.7	97.0	96.6	98.0
Gross* Mobility Between Branches (Two Digit)	6.6	7.7	8.6	4.7	3.6	4.5	3.8	4.6	2.9
Gross Mobility Between Groups of Branches									
Males	4.7	3.7	4.4	2.9	2.0	2.7	2.5	3.9	2.0
Females	5.6	4.4	6.8	5.0	3.7	5.0	4.6	1.7	1.8
Total	5.1	3.9	5.2	3.5	2.5	3.3	3.0	3.4	2.0

* since rectangular tables derived only Gross Mobility can be calculated.

Grouping branches into five broader categories, the criterion, being the homogeneity of their product (see Sampling Design, p 68), immobility increases following the same pattern as the finer classification (two-digit) had shown (94.9 in 1974-73 in broader classification against 93.4 in two-digit: see Table 38).

The most likely explanation of such high immobility or of movements within the same branches, rests upon the high inter-sector and general industrial immobility that characterises this period. Thus, as respondents do not change sector, in a majority they remain in exactly the same position in this decade. Moreover, intra-branch movements are accounted for by the fact that respondents, having acquired a specialisation in a job, prefer to move into similar activities. This is further supported by 62% of respondents who, answering the straightforward question: "Do you think you could find better conditions of work elsewhere?", stated that their preferences were concentrated in the same field of activity. On the other hand, certain occupations are strictly related to certain branches of industry, such as, for instance, tailors belonging to sewing of fabric industry (24 branches) and this too undermines respondents' spectrum of choice.

2.3 Mobility According to the Size of the Establishment

The size of establishment plays an important role in respondents' decision to stay or to move since its size normally reflects certain features such as the level of the management, the working conditions, economic benefits or stability, which in turn colour to a large extent the occupational status of respondents (2).

Respondents' distribution according to the size of establishments displays in the two extreme cases, that is, small firms (1-19 employees) or big firms (500 and more employees), a constantly decreasing pattern as the years prior to 1974 are concerned (see Appendix D3).

The trend that the size of establishment increases from 1965 onwards is sufficiently explained by the industrialisation of the country having resulted in growing size of firms. Conversely, the trend that the number of employees decreases, as far as the biggest companies are concerned in the decade 1965 onwards, can hardly be interpreted by the results of this survey.

Mobility from one year to the next in terms of the size of establishment is again found to be very low, but of a constant decreasing pattern as we considered the years prior

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(2) Goldthorpe-Hope Index (1975) takes as a fundamental determinant of occupational status the size of the company.

Table 39 Summary Mobility Measures According to the Size of the Establishment in the Successive Years 1965-1973

Summary Mobility Measures	1973-1972	1972-1971	1971-1970	1970-1969	1969-1968	1968-1967	1967-1966	1966-1965
Immobility	90.2	91.1	89.7	90.8	92.0	93.5	93.8	95.4
Movements Towards Bigger Establishments	6.1	5.1	7.2	5.9	5.0	4.8	2.9	3.0
Movements Towards Smaller Establishments	3.6	3.8	3.0	3.3	3.0	1.7	3.3	1.6
Gross Mobility	9.7	8.9	10.2	9.2	8.0	6.5	6.2	4.6
Bartholomew's Average 'Distance' Index	.33	.27	.30	.29	.26	.26	.18	.17

to 1973 (Table 39) (9.7% in 1973-72 against 4.6% in 1966-1965). The same decreasing trend shows respondents' movements towards bigger establishments, while movements towards smaller establishments do not follow a well defined pattern. Bartholomew's average distance index, though very low, is twice as much in the years 1973-1972 than in the beginning of the decade (.33 in 1973-72 against .17 in 1966-65).

These findings, however, must be interpreted not only in terms of respondents' movements from one size of establishment group to another (the criterion being the number of employees) but also in terms of changes in the size of establishment irrespective of respondents' movements.

2.4 Intragenerational Occupational Mobility

Intragenerational occupational mobility as it is shown in the decade 1965-1974 (Table 40) suggests that in essence employees remain stable as far as occupation is concerned. Of course, one can argue that occupation is specified by means of more or less analytical determinants in the sense that a finer or a broader occupational classification implies a different degree of description of occupational roles (Carlsson, 1958:55-57). Thus, in this context, it is possible for respondents to experience mobility in a finer but not in a broader classification.

In this study, using a one-digit occupational classification (see Appendix B1) which distinguishes only broad aggregates,

mobility as the following Table 40 shows, is extremely low (Yasuda's Index is 4.7 in 1974-1973 against .6 in 1966-1965), following a constantly decreasing trend. Ignoring the possible occupational movements within this decade and comparing only occupational groups of 1965 to those of 1974 the corresponding mobility index increases to 7.3.

Using a different classification according to Duncan's Socioeconomic Index (ten-point scale interval) immobility does not follow a pattern, but in general it is very high (varying from 89.9 in 1972-1971 to 95.5 in 1966-1965). Even higher immobility occurs in the case of respondents who, entering the labour market before 1965, have a common base of at least ten years of employment (the lowest immobility is 95.6 in 1971-1970 and the highest 98.7 in 1966-1965). High immobility can also be shown by using Cramer's V as an index of association between occupational status of successive years, the value being very high (from .882 in 1974-1973 to .973 in 1966-1965).

One deficiency in studying intragenerational occupational mobility in this way lies in the fact that employees have not experienced the same working time (years) since they have entered the labour market at different times. Examining respondents in terms of their age (by cohort analysis) partially remedies this. Thus, expressing occupation in terms of Duncan's SEI (ten-point scale interval) and working with a sub-sample of those respondents who have at least the

Table 40 Summary Measures of Intragenerational Occupational Mobility

Summary Measures	Successive Years									1965-1974
	1974-1973	1973-1972	1972-1971	1971-1970	1970-1969	1969-1968	1968-1967	1967-1966	1966-1965	
Immobility (IOI Classification)	97.1	95.9	96.2	96.8	98.3	97.6	98.6	98.6	98.7	89.9
Immobility (SEI Classification)	94.8	92.1	89.9	91.4	90.1	93.3	94.4	94.3	95.5	84.2
Immobility (SEI Classification) of those respondents being at least the ten last years in the labour market	98.4	98.7	98.3	95.6	97.9	98.7	98.7	98.7	97.6	88.3
Yasuda's Mobility Index (IOI)	4.7	5.1	5.1	2.8	2.6	2.1	2.9	.9	.6	7.3
Cramer's V (SEI Classification)	.882	.902	.879	.882	.888	.924	.928	.958	.973	.764

last ten years in the labour market, it was found that younger respondents show a slightly higher immobility within the decade 1965-1974 than older ones (84.5 in the cohort 15-24 against 91.0 in the cohort 55-64: see Appendix D41). However, as a rule high immobility is present in all age groups in all successive years (1965-1974).

An analysis by sex in the same sub-sample gives priority to males rather than females in occupational immobility in this decade, although both sexes show high immobility (84.6 males against 90.5 females) (see Appendix D42).

In general, low intragenerational occupational mobility, as found in this survey, stems from two reasons: First, occupational mobility, especially for unskilled work, is the consequence of low inter-sector and generally low inter-industrial movements that respondents have experienced in this limited period, in the sense that job changes (as job was defined in this survey) in most cases also imply occupational changes. The second reason relates to the classification scheme, because occupational changes may occur but they take place within the same occupational aggregates. Thus working with finer occupational categories (this presupposes a larger sample) different patterns of occupational mobility might possibly be obtained. Nevertheless, this mobility (within the same occupational aggregates) cannot affect social stratification and therefore in practice it acquires a limited significance. The interpretation of such low intragenerational

mobility is more likely to be explained by the economic conditions which prevailed during this decade in Greece and particularly to high unemployment as was referred to previously.

2.5 Appendix - A Summary of Industrial Movements by Sex

Respondent's sex is considered a basic attribute of the labour market's composition. The fact that certain occupational roles are almost exclusively designated for either males or females (for instance manual occupations in heavy industry for males or clothing manufacturing for females) in association with the type of society, its level of economic development, tradition and culture, preserve a differentiation between males and females.

As it was mentioned in previous sections of this chapter significant differences underly males and females industrial movements. Looking at the whole career of respondents, females have experienced less job changes than males (see table 29). In particular the proportion of stayers at the same job is considerably higher for females than for males (38% opposed to 20% of males) and with only one job change the corresponding percentages are 33% for females against 25% for males).

Concerning the 'movers' it was found that the duration that each group spent in each job also considerably differs. Thus

females constantly experience a shorter period in a job than males ($\bar{x}$ males = 6.93 years, against $\bar{x}$ females = 5.23 in the first job and $\bar{x}$ males = 2.40 against $\bar{x}$ females = 1.42 in the second job). Though this pattern gives rise to various tentative hypotheses such as "Females consider careers to be of a temporary character" however, such interpretations must be handled with caution and take into account the age, marital status, type of occupation and labour market conditions that each group experience.

Movements between economic sectors (e.g. industry, agriculture, trade, services etc.) also reveal differences between males and females. Females move within the same sector more often than males (.62 females against .55 males). In particular females movements within industry are more frequent than for males (.55 for females against .45 for males). This comparison however only concerns shifts from the first job to the second since there are too few females in the sample to make comparisons for further movements.

The period 1965-1974 which in general is characterised by high immobility of industrial employees does not demonstrate any different patterns between males and females. Though immobility between economic sectors and industrial branches is slightly higher for males than for females in this period (95.6 the lowest immobility index for males against 93.2 for

females) one cannot draw a general conclusion that males move differently from females. Furthermore, this suggests that though personal desires and family factors exist in any period, they exercise a less powerful role on decisions for moving whenever the labour market conditons are dominated by high unemployment like this period in Greece.

Intrageneration occupational mobility as measured in terms of Duncan Socioeconomic Index is slightly higher for females than for males (90.5 for females against 84.6 for males). But as was discussed in the relevant section high occupational immobility in this period is partly a product of the aggregation of occupational roles that the socioeconomic index generates which underestimates the degree of intragenerational occupational mobility.

In closing, the most profound differences between males and females located to this survey are in the number of job changes, in the duration that each group spends in a job and in movements between and within sectors of economic activities. The period 1965 - 1974 has been found to be similar for males and females in all types of industrial movements.

3. REASONS MOTIVATING RESPONDENTS TO CHANGE OR TO STAY IN THE SAME JOB

Respondents reported a variety of reasons which motivated them either to change their situation or to stay permanently in a certain job. These reasons can be classified into six major groups. Five groups of them, i.e. 'financial reasons', 'personal - family reasons', 'working conditions', 'opportunities for advancement' and 'miscellaneous' are important reasons both for 'stayers' and 'movers'; they simply take a positive meaning in the case of respondents who have stayed in the same job and a negative meaning when respondents have changed jobs. The sixth category is 'dismissal' for 'movers' corresponding with a category 'habit' for 'stayers'.

3.1 Reasons for Changing Jobs

The reasons given for the changing of jobs imply in certain cases that there is job dissatisfaction. Dissatisfaction for 'financial reasons' may take several forms, such as: the work offered is evaluated more highly than the rewards received; the minimum needs of the employee (a subjective estimation) may not be satisfied by the rewards received;

the labour market conditions may offer higher rewards irrespective of employees' needs or the standard of work offered. The latter case, in general, would appear to predominate in an employee decision to move from one job to another for financial reasons. As Vroom (1964:151) stated, satisfaction from the receipt of rewards "is dependent not on the absolute amount of these wages but on the relationship between the amount and some standard of comparisons used by the individual". This point of comparison may concern either rewards received by other people or rewards received in previous jobs.

In a similar manner, dissatisfaction with 'working conditions' and with lack of 'opportunities for advancement' are mediated by subjective estimations and aspirations within the job situation.

The reasons 'personal - family context' are independent of job satisfaction. They are characterised by exogeneous factors; and as such they vary considerably from individual to individual. Reasons for changing jobs because of 'dismissal', either for disagreement with the management or because of seasonal production, are directly related to the content of the job and create seeds of dissatisfaction within both employer and employee.

It is recongised that the responses cannot be regarded as strictly equivalent within categories. As Kreck et al (1962:291) pointed out: if two persons have had different

experiences with words or if they perceive the communication context differently, the meaning of an utterance will differ for them". Hence only the rough indications of the motives which caused individuals to change jobs can be derived from such data.

Respondents who have changed jobs more than once may be motivated in each case by different reasons. The fact that 22% of movers have also reported a different reason for each job change provides support for this remark. The comparison between first and second response (1) as a reason for changing jobs gives the spectrum of motives within which respondents' variation are expressed. Whether the first response forms the most important motive for changing jobs or simply expresses the reason for the final move of respondent is not clear. But irrespective of the point of reference of responses, the pattern reveals (see Figure VI and Appendix D51) that respondents who gave priority to 'financial reasons' put 'working conditions' in second place. Conversely respondents who reported as a first reason 'working conditions' or 'dismissal' have mentioned 'financial reasons' as a second response. This moreover suggests rotation among 'financial reasons', 'working conditions' and 'dismissal', giving these three reasons an outstanding priority in respect to others.

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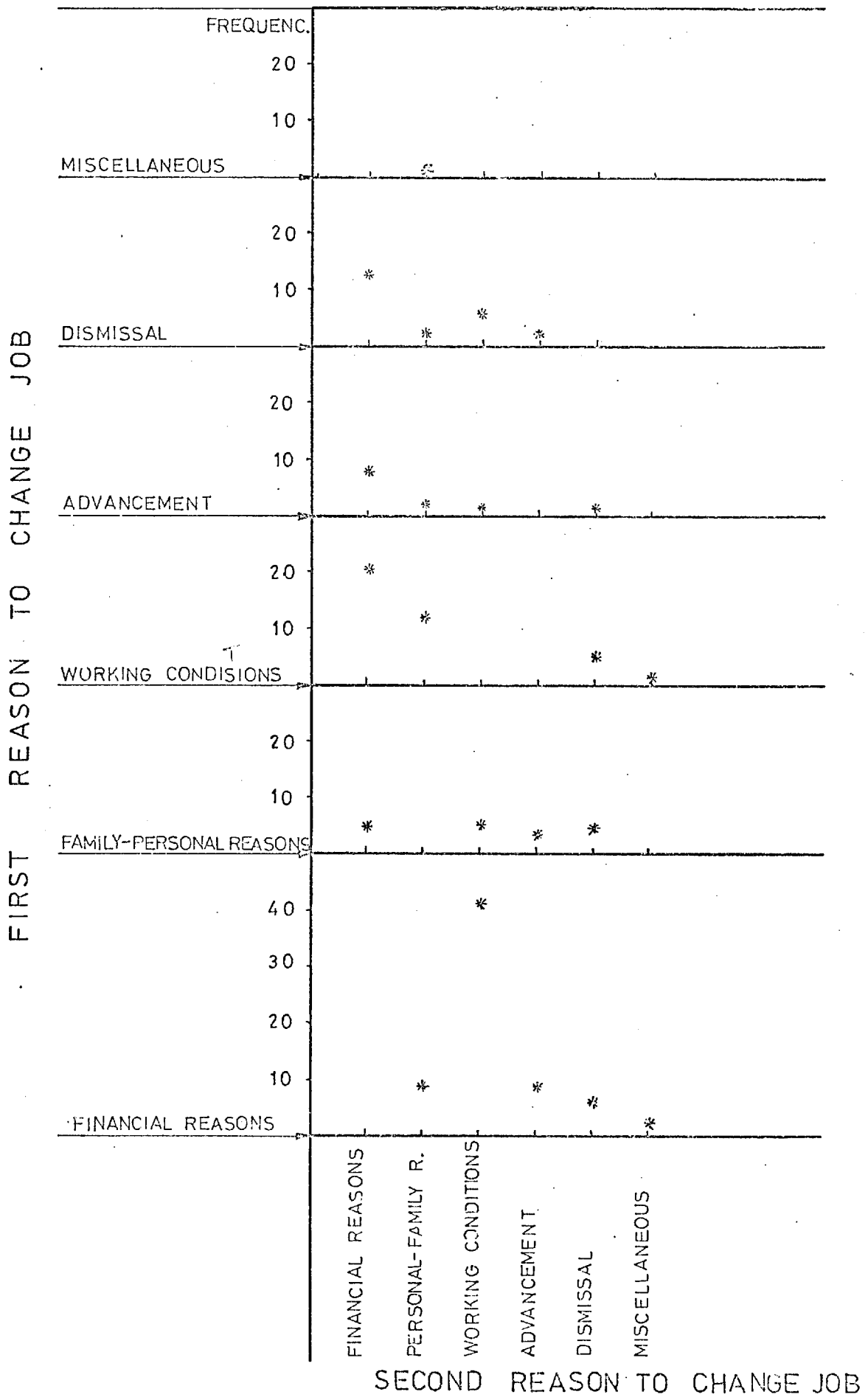
(1) Only the first and second responses were restricted because only 12 respondents (1.3%) have reported a third response as well.

FIGURE 6. DISTRIBUTION OF SECOND REASON MOTIVATING RESPONDENT TO CHANGE JOB IN TERMS OF FIRST REASON



The further analysis of motives for changing jobs is based upon the first response only, since only the number of employees with a single reply is sufficiently large.

Responses in terms of respondents' main constraints such as his personal characteristics (age, sex, marital status, occupation) are displayed in Table 41 (see also Appendices D52, D53).

In the whole sample of 'movers', 'financial' motives predominate over the other categories absorbing 41% of all responses. 'Dismissal' as a reason for changing jobs ranks second (17%) followed by 'working conditions' category (15%) and 'family and personal reasons' (12%). The category 'opportunities for advancement' tends to be rated as less important (8%).

This general pattern does not hold for all personal characteristic variables. A study by age groups (see Appendix D52) revealed that though the youngest cohort (15-24) gave priority to 'financial reasons' as a motive to change jobs, this does not prove to be the only significant reason; they selected 'working conditions' almost equally. Moreover, the percentage for 'opportunities for advancement', despite being considerably lower than the previous mentioned categories still is highest (14%) for this age group. This pattern could be partially accounted for because these employees oriented to the future, stress factors which

TABLE 41 Reasons Reported by Movers for Changing Jobs and By Stayers for Remaining In the Same Job and Summary Statistics of Association Between Reasons Reported and Respondent's Sex, Age, Marital Status, and Occupational Role

Reasons Reported For Moving	Overall Sample of Movers		Summary Statistical Measures				Overall Sample of Stayers		Reasons Reported For Staying
	N	%	X^2	df	Level of Sig	Cramer's V	N	%	
Financial Reasons	305	41.4					34	13.3	Financial Reasons
Family - Personal Reasons	91	12.3					18	7.0	Family - Personal Reasons
Working Conditions	111	15.1					71	27.7	Working Conditions
Opening for Advancement	65	8.8					79	30.9	Opening for Advancement
Dismissal	128	17.4					47	18.4	Habit
Miscellaneous	37	5.0					7	2.7	Miscellaneous
TOTAL	737	100.0					256	100.0	TOTAL
Association Between Reasons for Moving and Sex →			92.09	5	.00	.35			
			11.70	5	.04	.21	← Association Between Reasons for Staying and Sex		
Association Between Reasons for Moving and Age →			67.08	20	.00	.15			
			25.78	20	.17	.15	← Association Between Reasons for Staying and Age		
Association Between Reasons for Moving and Marital Status →			49.22	5	.00	.15			
			2.07	5	.00	.08	← Association Between Reasons for Staying and Marital Status		
Association Between Reasons for Moving and Occupation →			55.13	15	.00	.12			
			70.06	15	.00	.23	← Association Between Reasons for Staying and Occupational Status		

contribute to a stable and satisfactory career, such as 'working conditions' and 'opportunities for advancement'. Conversely, for older respondents and particularly for the age group 35-44, financial motives acquire more importance, presumably because of increased family expenses.

'Dismissal' is an important category for older respondents. One interpretation of the dismissal of older respondents lies in the rewards scheme and legislation which secure higher rewards and other allowances for older respondents, thus turning the employer's preference - especially for unskilled labour - towards younger employees. In general, reasons reported as motives for changing jobs are differentiated by respondents' age (X^2 = 67.08, 20 df p = .000).

A comparison by respondents' sex reveals a difference of motives between males and females. For males 'financial reasons' stand as the most important motive (40% of total responses) to change jobs. Conversely, for females, despite the considerably lower rewards which they receive in the manufacturing sector compared with males (FGI, 1970:47-61), they give priority to 'working conditions' (31%). Women, in addition, have been found to experience the highest percentage of 'dismissal' - 27%. Both trends can be interpreted in terms of females' situation in Greek social context. As a woman's occupational horizon is undermined because of her family destiny, she receives lower education and skill which in turn result in lower productivity and as

such is more prone to 'dismissal'. Motives for changing jobs, more than any other personal characteristic variable, are affected by sex (compare summary measures in Table 41).

The marital status variable confirms the general pattern. Married employees are more intent upon financial improvement (45.7% against 35% single respondents) and dismissal for married respondents (mainly women) increased from 15.8% for single employees to 18% for married (see Appendix D52). There is an inverse pattern with the categories 'working conditions' and 'opportunities for advancement' showing higher percentages for single employees than for married.

A close association exists between the occupational status of respondents - as it is measured by the Duncan Socio-economic Index (see Chapter I) - and motives for changing jobs. A derived trend suggests (see Appendix D53) that low status respondents (0-20) who in majority practice manual occupations, experienced the highest number of 'dismissals' (20%). Obviously for employers such respondents can be replaced easily, especially in periods of high unemployment. However, it is noticeable that in the upper level of occupational status (61-90) which corresponds to executives and administrators, a considerable proportion of 'dismissals' occurs (16%), but to interpret this further information would be necessary.

Economic reasons for leaving prevail in all occupational status groups, but although one would expect this to be reported more frequently by low status respondents, who generally are ill-paid, the inverse trend occurs; they displayed the lowest percentage (37% against 45% of the highest level). For those respondents of low status 'working conditions' and 'family - personal reasons' are cited most. On the other hand, as was expected, the category 'opportunity for advancement' enjoying here the lowest percentage (5% against 11% in the highest level) of all occupational status groups reveals the low aspirations for improvement of these respondents.

3.2 Reasons for Staying Permanently in the Same Job

The group of respondents who had stayed permanently in the same job justified this by a number of motives which, as already noted, paralleled those of the 'movers'.

Concerning the reasons for staying in the same job (see Table 41) the priority is given to the 'opportunities for advancement' category (30%) followed by 'working conditions' (28%). These findings support the long held contention of many investigators that these factors secure a degree of satisfaction irrespective of economic benefits (Vroom, 1964:150). Thus for 13% of respondents the motive for remaining in the same job is given as 'financial reasons' only.

Personal characteristic variables demonstrate a weaker relationship with motivation for staying than with motives for changing

jobs (Table 41) (see also Appendices D54, D55). This further suggests that while for 'movers' the reasons for changing jobs are relatively adequately specified and dissatisfaction with previous jobs is realised in certain aspects (financial, working conditions, etc) in the case of 'stayers' motives are not conceived in such a clear-cut manner. Evidence in support of this is shown by the frequency with which the category 'habit' is selected (18%). This category expresses a neutral attitude towards jobs, indicating that for those respondents remaining in the same job the motive for doing so is ill defined.

From all personal characteristic variables only sex and occupational status have been found to be significantly associated with motives (see Table 41). Attention may be drawn to the fact that females showed a stable preference in both groups - movers and stayers - giving their first priority to 'working conditions'.

Motives for remaining in the same job differ by occupational status category (see Table 41 and Appendix 55). Although a clear trend can hardly be drawn, comparing employees of the lowest occupational status (0-20) with those of highest status (60-95), certain differences are clear. Thus the category 'openings for advancement' has been found more important for the lowest status group than the highest (30% against 23%). It is worthy of note that although this motive for changing jobs is illustrated by the lowest percentage (4.8%)

in the case of 'movers'; for 'stayers' this has proved the most significant reason to remain in the same job. Further suggesting that for respondents of this status, this motive can produce satisfaction but its absence does not seem to imply dissatisfaction.

Another noticeable difference between respondents of the two extreme occupational status groups concerns the category of 'habit'. For lowest status respondents a considerable number of them (21%) reported this neutral motive as a reason for staying permanently in the same job, while a small proportion (4%) of highest status respondents mentioned this reason. They may be due to a variation in occupational roles and responsibilities in comparison with lower status respondents.

From this descriptive analysis it is concluded that each group of respondents - stayers or movers - gave a different weight to their motives for staying or moving. Furthermore, motives are differentiated by the respondents' personal characteristics. In addition other factors which have not been taken into consideration in this analysis, for instance, labour market conditions, seem to account for such motives.

The main findings of this study obtained by using mobility indices and path models can be summarised as follows:

A. Intergenerational Mobility studied via its two main components of occupation and education has shown:

1. Concerning the occupation 'craftsmen and labourers' who form the major part of the respondent's generation, these show the highest immobility. Furthermore, 'inheritance' factors exercise a powerful role in all occupational strata, their significance being pronounced in the 'professional, administrative and executive' group.

Occupational flows indicate that 'farmers' who predominate in the respondents' fathers' generation supply the 'craftsmen and labourers' category with a high percentage. 'Craftsmen and labourers' and 'farmers' equally supply the 'top' category of 'administrative - executive'. 'Clerical, merchant, sales' workers are equally recruited from 'craftsmen - labourers' and from their own category.

Different occupational patterns stem from sex and age constraints. Females are found in lower status occupations than males and, particularly, in the 'administrative - executive' category the differences are noticeable. Males from farming environments exceed those from 'craftsmen - labourers' backgrounds in the 'clerical, merchant, sales' category. The inverse pattern holds for females of the same origin.

Both groups in terms of their origin (farming, craftsmen, labourers) and both sexes predominate in the category of 'craftsmen and labourers'.

Younger respondents enjoy higher status jobs than older ones. Middle age cohorts favour 'clerical, merchant, sales' occupations more than do extreme age cohorts. In the 'top' occupational category and in the younger cohorts respondents from a farming origin are in a majority compared with respondents of 'craftsmen - labourers' origin.

2. Concerning intergenerational trends as to education it was revealed that Greek industrial employees experienced high educational mobility. Upward movements prevailed in the respondents' generation, especially in technical education and in institutions of university level. A large part of upward mobility is a 'pure' movement due more to the individual's eagerness for education and advancement than to changes in the educational requirements of the occupational structure. Inheritance forces in education are higher in the upper educational strata than in the lower groups.

Differences in educational patterns arise with regard to sex, age and geographic origin of respondents. Males enjoy and experience higher mobility than females but their movements are dominated by 'structural changes' while for females 'pure' mobility is pronounced. Younger respondents show higher mobility in an upward direction than do older ones. Conversely,

younger ages experienced lower 'pure' mobility than older ones. Geographic origin as related to differences in educational attainment favours respondents from urban areas, but no substantial differences are found in mobility patterns between respondents of urban and rural environments.

3. A consideration of educational and occupational patterns reveals that occupational immobility is considerably higher than educational immobility (inheritance) between the two generations. Much higher educational upward movements than occupational upward mobility is shown. The general pattern suggests that a certain amount of education remains 'idle' since it exceeds the occupational requirements in these two main occupational categories.

B. Intragenerational Industrial Movements

The respondents' intragenerational moves from sector to sector of economic activity, their inter- and intra-industrial branch mobility, as well as their changes of occupational group studied in relation to their personal characteristics have shown that:

1. The whole career of the respondent exhibits high mobility when examined as to job changes, which vary from one to six in a decreasing function. Personal characteristic variables such as sex, age, marital status, occupation and geographic origin affect the number of job changes that a respondent experiences. In particular, males move more than

females and non-singles and people from urban areas more often change jobs than do single people or those from a rural community. However, though these variables differentiate between the number of job changes they can only explain 16% of the total variation. This suggests that other factors, and particularly, labour market conditions, dictate the number of job changes that individuals undergo during their careers.

Concerning movements among sectors of economic activity, agriculture seems to supply industry with labour in a higher ratio than any other sector. The mobility index for the first four successive job changes varies from .72 to .85. This is affected by age. The middle age group (35-44) experience the highest mobility for all successive job changes.

Mean duration in each successive job follows a monotonic decreasing pattern. Age does not play an important role in duration of job-holding, but does have an effect in the case of older respondents in their second job.

2. Studying respondents' career in the period 1965-1974, a period which coincides with the highest rate of industrialisation of the country, different patterns are shown. Thus inter-sector, and particularly intra-industry, mobility is extremely low, the lowest part appearing during the years 1965-1970 when the rate of unemployment was also high. In

the case of respondents having ten or more years in the labour market, and this covers 65% of the sample, trends are almost the same showing a slightly higher immobility compared with the whole sample. Movements in terms of the size of establishments display also low mobility.

Intragenerational occupational mobility in this decade, studying it either by grouping the occupations according to the International Occupational Index or Duncan's Socioeconomic Index, mobility ratios are found to show the same low trend.

3. Reasons reported as motivating respondents to change jobs differ according to their sex, age, marital status and occupation. As a general rule financial motives predominate across all these categories, with the exception of sex, where females give priority to working conditions. Younger and single respondents put working conditions in second place, while for older respondents, females and non-single persons, dismissal is placed second. In the case of immobility, opportunity for advancement is the main factor keeping respondents in the same job, although the reasons reported are not as clear-cut as in the case of mobility.

C. Occupational Achievement Process

Occupational achievement process measured by Duncan's Socioeconomic Index and by a path analysis procedure modified to meet the demands of the present investigation, has demonstrated that father's education and his occupation, the number of siblings, respondent's place of residence until the age of fourteen and his educational attainment account for

the respondent's occupational status (account for 20-40% of the variance in different age groups). The success of prediction is highest in the three middle age cohorts.

The above family background variables influence occupational status in the following priority: Respondent's educational attainment remained the fundamental source of his occupational achievement over cohorts. Respondent's education in turn is mainly affected by his sex and in second place by his father's education and occupation, the number of siblings and the place of residence. In particular father's education, more than his occupation, affects respondent's educational attainment in younger cohorts, while the number of siblings has a negative impact on education in all cohorts. Direct and indirect effects of all these explanatory variables on occupational status fluctuate considerably among variables and age groups, but as a rule, the effects of father's education on occupational status are more indirect than direct, especially in younger cohorts.

First occupational status though was found to play a crucial role in current occupational status, but its effects are questionable in terms of the manner of the conceptualisation of these two variables since most respondents are classified in the same occupational category at the present as they had in the first occupation.

D. Further Research

Further research based on this investigation or emanating from it could be of three kinds:

1. Exploiting information already collected and partially used in the present study, there are three possibilities:

(a) A study concerning the attitudes of employees towards the kind of work they are doing, staff relations and the degree of satisfaction that the hob creates. Attitudes could be related to occupational achievement and mobility patterns (see Questionnaire A, Motives, Aspirations and Attitudes towards Work: Questions 17-36).

(b) Patterns of mobility in the continuum of three generations (father, respondent and respondent's children).

(c) Analysis of patterns of intragenerational mobility by stochastic processes models in order to verify results already analysed and to forecast future trends.

2. (a) Expanding the research on mobility to the whole economically active population and/or the whole country with regard both to variables already examined and to ones proposed. This type of research would present a full picture of occupational movements of the Greek population and would give an answer to questions concerning the causes and effects of mobility on social structure.

(b) The effects of character and personality factors upon occupational movements and the psychological consequences of mobility. Such a study, presupposing extensive interviewing and specific psychological tests, would be carried out on rather small samples.

3. Auxiliary studies concerning mobility. Occupational mobility studied in terms of occupational status is expressed by a socioeconomic index. The formulation of a new index derived from social grading of occupations and based upon the image of occupations that Greeks have, is considered necessary because it can provide mobility studies with greater precision. This research requires a large representative sample of the population and the application of finer statistical methods, such as multivariate techniques.

The above three categories of research are considered of great importance for understanding the structure of the Greek society as a whole, for a better interpretation of economic developments and for more realistic socioeconomic planning.

APPENDIX A1

C O D E S

LABOUR MOBILITY IN GREEK INDUSTRY

QUESTIONNAIRE FOR EMPLOYEES

Establishment .....

Code Number .....

I. DATA CONCERNING WORK

1. When did you leave school? ....

2. Year of starting full-time employment ....

3. Date of joining this company ....

4. Since you first started in full-time employment have you changed companies or held any other job?

YES ..... NO ....

(If YES: complete the following and then answer question 5. If NO: answer question 6.)

	Company or any other kind of work	Address	Duration	
(a)	.....	.....	.....	.....
(b)	.....	.....	.....	.....
(c)	.....	.....	.....	.....
(d)	.....	.....	.....	.....
(e)	.....	.....	.....	.....
(f)	.....	.....	.....	.....
(g)	.....	.....	.....	.....

	CODES
5. Reasons that made you change your place of employment.	
(a)	.....
(b)	.....
(c)	.....
(d)	.....
6. Reasons that kept you in the same place of employment.	
(a)	.....
(b)	.....
(c)	.....
7. What do you exactly do at this company?	.....
.....	
8. The exact position you hold in this company:	
- Managing Director	.....
- Department Head	.....
- Clerk	.....
- Foreman	.....
- Skilled Worker	.....
- Unskilled Worker	.....
- Anything else	.....

9. How long have you been in your present post?

CODES

....

10. Name the places where you have worked during the last ten years, give address, products and number of employees.

Year	Company or any Other Job	Address	Products	No. of Employees	
1974					.....
1973					.....
1972					.....
1971					.....
1970					.....
1969					.....
1968					.....
1967					.....
1966					.....
1965					.....

11. Reasons that made you change your last place of employment.

C O D E S

(a) ....

(b) ....

(c) ....

(d) ....

(e) ....

12. Have you changed occupation during the last ten years? (If YES: give detailed description of each occupation you have held.)

Year	YES	NO	OCCUPATION	
1974				.....
1973				.....
1972				.....
1971				.....
1970				.....
1969				.....
1968				.....
1967				.....
1966				.....
1965				.....

13. Why have you changed your occupation? | C O D E S

(a) ..... | .....

(b) ..... | .....

(c) ..... | .....

(d) ..... | .....

14. Have you been promoted during the last ten years? Give the status of positions you have held.

Year	YES	NO	STATUS	
1974				.....
1973				.....
1972				.....
1971				.....
1970				.....
1969				.....
1968				.....
1967				.....
1966				.....
1965				.....

		CODES
15.	Have you ever been unemployed during the last ten years?	
	YES ..... NO	.....
	(IF YES): How long?	.....
	Why?	.....
	.....	
16.	How long do you work at your regular place of employment?	
	- One shift	.....
	- Two shifts	.....
	- One shift and part-time	.....
	- One shift there and part-time elsewhere	.....

II. MOTIVES, ASPIRATIONS AND ATTITUDES TOWARDS WORK	C O D E S
17. Why did you choose the kind of work you are doing?	
(a)	.....
(b)	.....
(c)	.....
(d)	.....
18. How did you happen to join this company?	
(a)	.....
(b)	.....
(c)	.....
(d)	.....
19. Do you like the work you are doing?	
- Very much	.....
- Quite well	.....
- So-so	.....
- A little	.....
- Not at all	.....
20. Why?	.....
.....	

	CODES
21. Do you enjoy your work?	
Yes	.....
So-so	.....
No	.....
22. What are the advantages of your work?	
(a)	.....
(b)	.....
(c)	.....
(d)	.....
23. What are the disadvantages of your work?	
(a)	.....
(b)	.....
(c)	.....
(d)	.....
24. Are you allowed any initiative in your job?	
- Often	.....
- At times	.....
- Never	.....

	CODES
25. Are you consulted over the planning of work?	
YES ..... NO	.....
26. Are you consulted over any personnel problems that may arise?	
YES ..... NO	.....
27. Are there opportunities of advancement?	
YES ..... NO	.....
(IF YES): How?	.....
(IF NO): Why?	.....
28. Do you think you could find better conditions of work elsewhere?	
YES ..... NO	
(IF YES):	
- With a similar company?	.....
- In a different kind of work?	.....
- In an area outside Athens?	.....
- Abroad?	.....
29. Do you believe that considering your qualifications and the work you offer your pay is:	
- Quite good	.....
- Adequate	.....
- Unsatisfactory	.....

	CODES
30. How do you get along with your colleagues?	
- Very well	.....
- Satisfactorily	.....
- Not at all	.....
31. Would you prefer it if some of your colleagues were not to work in this company?	
YES ..... NO	.....
(IF YES): How many?	.....
32. Do you have any social contact with your colleagues?	
YES ..... NO	.....
(IF YES):	
- With colleagues at the same level	.....
- Superiors	.....
- Subordinates	.....
33. Do you believe that the company gives authority to the right people?	
- Yes	.....
- No	.....
- Some	.....
- Don't know	.....

	CODES
34. Do you believe that the relationship between employer and employees is:	
- Good	.....
- Indifferent	.....
- Bad	.....
- Don't	.....
35. Is the building in which you are working satisfactory?	
YES ..... NO	.....
Why?	.....
36. If you were given the opportunity to change something in the environment of your work, what would you change first?	
.....	.....
.....	
.....	
.....	

III. PERSONAL AND SOCIOECONOMIC PARTICULARS | CODES

A. EMPLOYEE

37. Name .....

38. Sex: Male ..... Female ....

39. Date of Birth: .....

40. Place of birth: Town or village ....
Province (County) ....
Region ....
Abroad ....

41. Where do you live? (Neighbourhood) ....

42. Do you own your house or rent it?

Own ....
Rent ....

43. Do relations or people from your place of origin live in your neighbourhood?

- Relations: YES ..... NO ....
- Local people: YES ..... NO ....

	CODES
44. Where did you live until you were fourteen?	
- Town or village	.....
- Province (county)	.....
- Region	.....
- Abroad	.....
45. Marital status:	
- Single	.....
- Married	.....
- Divorced	.....
- Widow(er).....	
46. (If he/she is married, divorced, widowed) Do you have children?	
YES ..... NO	.....
(IF YES): Mention: sex, age, occupation	

	Sex	Age	Occupation	
(a)	.....	.....	.....	.....
(b)	.....	.....	.....	.....
(c)	.....	.....	.....	.....
(d)	.....	.....	.....	.....
(e)	.....	.....	.....	.....
(f)	.....	.....	.....	.....

	CODES
47. Own educational attainment:	
- No school	.....
- 3rd grade of primary school	.....
- Completed primary school	.....
- 3rd grade of secondary school	.....
- Completed secondary level	.....
- Technical college	.....
- High technical college	.....
- University	.....
48. Since you first started working, have you attended courses in connection with your profession?	
YES ..... NO	.....
(IF YES): What kind of course?	.....
.....	
Where?	.....
.....	

B. FAMILY

49. Age of parents and siblings (according to age):		
Father	.....	.....
Mother	.....	.....
Brother (Sister)	.....	.....
	.....	.....
	.....	.....
	.....	.....
	.....	.....

50. Place of birth of your parents:

	Father	Mother	CODES
Town or village	.....	.....	.....
Province (county)	.....	.....	.....
Region	.....	.....	.....
Abroad	.....	.....	.....

51. Occupation of your parents:

	Father	Mother	
- At your birth	.....	.....	.....
- At the age of 14	.....	.....	.....
- Today	.....	.....	.....

52. Educational attainment of your family:

	No School	3rd Prim.	Compl. Prim.	3rd Second.	Compl. Second.	Tech. Coll.	High Tech. Coll.	Univ.
Father								
Mother								
Brother (or Sister)								
.....								
.....								
.....								
.....								
.....								
.....								

	CODES
53. (If he/she is married) Does your wife (husband) work? YES ..... NO	.....
54. (IF YES): What is his (her) occupation?	.....
Where does he (she) work?	
- In the same town	.....
- Neighbourhood	.....
- In another town	.....
- Another neighbourhood	.....

INTERVIEWER: .....

DATE: .....

NOTES: .....

.....

.....

.....

Remark: Part Two: Motives, Aspirations and Attitudes Towards Work has not been used in this study.

QUESTIONNAIRE FOR ESTABLISHMENT | C O D E S

1. Name of the establishment ....

2. Location ....

3. Main Products ....

4. Nationality ....

5. Size: Number of employees ....

Capital assets in 1973 ....

6. Year of establishment ....

7. Type of company: Personal ....

Limited Co. ....

Stock Co. ....

8. Does the owner manage the company himself? ....

YES ..... NO ....

9. Modes of payment for each category

	Workmen	Foremen	Dept Heads	Directors	CODES
(a) according to collective agreement	..	..	..	..	.....
(b) over collective agreement	..	..	..	..	.....
(c) bonusses	..	..	..	..	.....
(d) non-financial incentives	..	..	..	..	.....
(e) profit-sharing	..	..	..	..	.....
(f) other	..	..	..	..	.....

10. What is the pension scheme? Does the company follow the Social Security Foundation's (S.S.F.) regulations or has it auxiliary pension fund as well?

(a) only S.S.F. ....

(b) S.S.F. and auxiliary pension fund ....

11. Does the company do short-term (up to one year) and long-term (over one year) production planning?

Short-term Yes ..... No ....

Long-term Yes ..... No ....

12. Has the company adopted new managerial techniques, for instance:

Standard cost Yes ..... No ....

Work study Yes ..... No ....

Personnel training Yes ..... No ....

13. Is most of the mechanical equipment | CODES

- old (more than 10 years) ..... | .....
- intermediate (5-10 years) ..... | .....
- modern (less than 5 years) ..... | .....

14. Is the production characterised by automation?

Yes ..... No ..... Fairly ..... | .....

15. Do employees participate in decision making?

Yes ..... No ..... Fairly ..... | .....

(If Yes): In what subject?

(a) ..... | .....

(b) ..... | .....

(c) ..... | .....

(d) ..... | .....

16. In decision making is responsibility:

	Workmen	Foremen	Dept Heads	Directors	
(a) taken only by manager or director	..	..	..	..	.....
(b) shared between manager (or director) and departmental heads	..	..	..	..	.....
(c) given to foremen as well	..	..	..	..	.....

INTERVIEWER: .....

DATE: .....

NOTES: .....

.....

.....

.....

C O D E S

OCCUPATIONAL INDICES

(International Occupational Index (IOI) - Duncan's Socioeconomic Index (SEI))

International Occupation Index (I O I)	Occupations	Duncan's Socio-Economic Index (S E I)		
		Crafts-men	Labourer	Average (crafts-men & labourer for father's class
0/1	Professional, Technical and Kindred Workers			
01	Chemists	79		
02	Architects	90		
03	Designers	73		
06	Pharmacists 82 Physicians-surgeons 92			
08-09	Social scientists	81		
11	Accounts and auditors	78		
12	Lawyers and judges	93		
13	Teachers	72		
14	Religious workers	56		
15	Editors - reporters	82		
16	Photographers	50		
17	Musicians 52 Dancers 45			
19	Professional, Technical and Kindred Workers (NEC)	65		
0/2	Managers, Officials and Proprietors, excl. Farm			
20	Federal public administration	82		
21	Managers, officials and Proprietors Salaried (NEC)	68		
0/3	Clerical and Kindred Worker			
31	Officials and administrators public administration	66		
32	Stenographers, typists, secretaries	61		
33	Bookkeepers 51 Cashiers 44			

Cont'd

Occupational Indices (Cont'd/2) APPENDIX B1

International Occupation Index (I O I)	Occupations	Duncan's Socio-Economic Index (S E I)		
		Craftsmen	Labourer	Average (craftsmen & labourer/for father's class)
34	Office machine operators	45		
36	Conductors, bus and street railways	30		
38	Telephone operators	45		
39	Clerical and kindred workers (NEC)	44		
0/4	Sales Workers			
41	Managers of ficials and proprietors of self-employed wholesale trade	59		
42	Managers, officials, proprietors	68		
43	Salesmen and sales clerks (manufacturing)	65		
44	Purchasing agents and buyers	77		
45	Salesmen and sales clerks	47		
49	Salesmen and sales clerks in other industries	50		
0/5	Service Workers, except private household			
51	Managers, officials and proprietors self-employed in eating and drinking places	37		
53	Cooks, except private household	15		
54	Private household worker	7		
55	Guards, watchmen and door-keepers	18		
56	Laundry and dry-cleaning operators	15		
57	Barbers, beauticians, manicurists	17		
58	Firemen, fire protection	37		
59	Service workers, except private household, (NEC)	11		

Cont'd

Occupational Indices (Cont'd/3) APPENDIX B1

International Occupation Index (I O I)	Occupations	Duncan's Socio-Economic Index (S E I)		
		Craftsmen	Labourer	Average (craftsmen & labourer/for father's class)
0/6	Farmers, lodgers and related workers			
61	Farmers (owners and tenants)	14		
62	Farm managers	36		
64	Teamsters	8		
67	Lumbermen, wood-choppers	4		
68	Fishermen	10		
07/08/09	Craftsmen, foremen, operatives and labourers and kindred workers			
70	Foremen	53		
71	Mining and quarrying work	12		
72	Metal industries	16	7	12
73	Misc wood products	9	3	6
74	Misc chemical products	23	8	16
75	Misc textile mill products	10	6	8
76	Leather; tanned, curried and finished	10	2	6
77	No specified food industry	19	9	10
78	Tobacco manufacturing	2	0	1
79	Tailors (male & female)	23		
80	Footwear, except rubber	10	9	10
81	Cabinet makers	23	5	14
82	Stone cutters and stone carvers	25		
83	Toolmakers	50		
84	Misc. machinery	22	10	16
85	Electricians	45		
86	Electrical machinery equipment and supplies	26	14	22
87	Filers, grinders and polishers of metal	22		
89	Glass and glass products	17	7	12

Cont'd

Occupational Indices (Cont'd/4) APPENDIX B1

International Occupation Index (I O I)	Occupations	Duncan's Socio-Economic Index (S E I)		
		Crafts-men	Labourer	Average (craftsmen & labourer/for father's class
90	Rubber products	22	12	17
91	Misc paper pulp products	19	8	14
92	Printing, publishing	31	23	27
93	Painters, construction and maintenance	16		
94	Misc manufacturing industry	16	8	12
95	Misc non-metallic industry & stone products	15	5	10
97	Motormen, mine, factory logging, camp etc		33	
98	Drivers and chauffeurs	10		
99	Labourers - non-specified manufacturing industry		8	

INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION (ISIC)

Code	Branches
20	Food prepartion except beverages
21	Beverage industries
22	Tobacco manufactures
23	Manufacture of textiles
24	Manufacture of footwear and sewing of fabric
25	Wood and cork
26	Furniture and fixtures
27	Manufacture of paper
28	Printing and publishing
29	Leather and fur products
30	Rubber and plastic products
31	Chemical industries
32	Petroleum and coal refining
33	Non-metallic mineral products
34	Basic metal industries
35	Fabricated metal products except machinery
36	Machinery and appliances except electrical
37	Electrical machinery, apparatus, appliances and supplies
38	Transport equipment
39	Miscellaneous manufacturing industries

Actual Educational Mobility from Fathers to Respondents: Ages 15-24

Father's Education	Respondent's Education								All educational levels
	1	2	3	4	5	6	7	8	
1 No school	1	1	9	3	2	5	–	–	20
2 3rd grade primary school	–	1	22	4	5	13	2	–	47
3 Completed primary school	–	2	37	20	13	31	18	1	122
4 3rd grade secondary school	–	–	4	3	5	4	4	1	21
5 Completed secondary school	–	–	2	1	4	5	3	5	20
6 Technical colleges	–	–	1	–	1	1	–	–	3
7 High technical colleges	–	–	–	2	–	3	–	–	5
8 Universities	–	–	1	–	–	–	–	1	2
All Educational Levels	1	4	76	33	30	61	27	8	240

Actual Educational Mobility from Fathers to Respondents: Ages 25-34

Father's Education	Respondent's Education								All educational levels
	1	2	3	4	5	6	7	8	
1 No school	1	1	13	4	1	7	–	–	27
2 3rd grade primary school	–	2	18	4	2	6	4	2	38
3 Completed primary school	–	3	34	7	20	18	17	7	106
4 3rd grade secondary school	–	1	4	4	8	6	5	2	30
5 Completed secondary school	–	–	2	2	5	5	3	10	27
6 Technical colleges	–	–	–	–	–	1	1	1	3
7 High technical colleges	–	–	2	–	–	2	1	–	5
8 Universities	–	–	–	1	1	2	1	2	6
All Educational Levels	1	7	73	22	37	47	32	24	243

Actual Educational Mobility from Fathers to Respondents: Ages 35-44

Father's Education	Respondent's Education								All educational levels
	1	2	3	4	5	6	7	8	
1 No school	5	9	9	2	3	3	–	2	33
2 3rd Grade primary school	3	6	17	3	6	4	1	3	43
3 Completed primary school	10	11	29	5	21	14	6	3	99
4 3rd Grade secondary school	1	1	6	4	6	3	3	4	28
5 Completed secondary school	–	1	1	1	2	1	1	2	9
6 Technical colleges	–	–	1	–	–	1	–	–	2
7 High Technical colleges	–	2	–	4	3	1	–	–	10
8 Universities	–	–	–	1	4	1	2	2	10
All Educational Levels	19	30	63	20	45	28	13	16	234

Actual Educational Mobility from Fathers to Respondents: Ages 45-54

Father's Education	Respondent's Education								All educational levels
	1	2	3	4	5	6	7	8	
1 No school	7	13	18	3	–	1	–	–	45
2 3rd Grade primary school	2	12	25	5	–	1	–	2	47
3 Completed primary school	6	8	32	9	6	6	2	3	72
4 3rd Grade secondary school	1	1	7	–	2	1	–	2	14
5 Completed secondary school	–	–	4	3	2	1	–	2	12
6 Technical colleges	–	1	–	–	–	–	–	–	1
7 High technical colleges	–	4	–	1	–	1	–	1	7
8 Universities	–	–	–	–	4	–	1	1	6
All Educational Levels	16	39	86	21	14	11	3	11	201

Actual Educational Mobility from Fathers to Respondents: Ages 55-64

Father's Education	Respondent's Education								All Educational Levels
	1	2	3	4	5	6	7	8	
1 No school	–	8	7	1	–	–	–	–	16
2 3rd Grade primary school	1	6	6	6	2	1	–	–	22
3 Compoeted primary school	3	5	11	6	1	3	2	1	32
4 3rd Grade secondary school	–	–	1	3	1	–	–	1	6
5 Completed secondary school	–	–	1	2	2	–	1	–	6
6 Technical colleges	1	–	–	–	–	–	–	–	1
7 High technical colleges	2	3	3	–	1	–	–	–	9
8 Universities	–	1	1	1	1	–	–	–	4
All Educational Levels	7	73	30	19	8	4	3	2	96

Actual Educational Mobility from Fathers and to Respondents: Males

FATHER'S EDUCATION	RESPONDENT'S EDUCATION								All Educational Levels
	1	2	3	4	5	6	7	8	
1. No School	3	18	42	12	4	12	–	2	93
2. 3rd Grade Primary School	3	17	50	18	10	23	5	6	132
3. Completed Primary School	1	11	77	32	34	68	32	14	269
4. 3rd Grade Secondary School	1	–	14	12	8	12	10	9	66
5. Completed Secondary School	–	1	4	9	6	9	4	16	49
6. Technical Colleges	–	–	–	–	–	3	1	–	4
7. High Technical Colleges	3	7	4	6	2	5	–	–	27
8. Universities	–	1	1	3	7	3	3	4	22
All Educational Levels	11	55	192	92	71	135	55	51	662

Actual Educational Mobility from Fathers to Respondents: Females

FATHER'S EDUCATION	RESPONDENT'S EDUCATION								All Educational Levels
	1	2	3	4	5	6	7	8	
1. No School	10	15	14	1	2	3	–	–	45
2. 3rd Grade Primary School	3	10	38	4	5	2	2	1	65
3. Completed Primary School	18	18	66	15	27	4	13	1	162
4. 3rd Grade Secondary School	1	3	8	2	14	2	2	1	33
5. Completed Secondary School	–	–	5	–	9	3	4	3	24
6. Technical Colleges	–	–	2	–	1	–	–	1	4
7. High Technical Colleges	–	3	1	1	2	2	1	1	11
8. Universities	–	–	2	–	3	–	1	2	8
All Educational Levels	32	49	136	23	63	16	23	10	352

Educational Mobility From Father to Respondent (Respondents from Rural Areas)

FATHER'S EDUCATION	RESPONDENT'S EDUCATION								All Educational Levels
	1	2	3	4	5	6	7	8	
1. No School	6	16	24	7	2	5	–	–	60
2. 3rd Grade Primary School	4	12	37	16	4	6	2	1	82
3. Completed Primary School	11	18	66	25	23	19	17	6	185
4. 3rd Grade Secondary School	2	2	9	5	4	5	3	5	35
5. Completed Secondary School	–	–	3	3	1	2	2	2	13
6. Technical Colleges	–	–	1	–	–	–	–	–	1
7. High Technical Colleges	1	5	2	2	1	–	1	–	12
8. Universities	–	–	1	–	4	–	1	–	6
All Educational Levels	24	53	143	58	39	37	26	14	394

Educational Mobility from Father to Respondent (Respondents from Urban Areas)

FATHER'S EDUCATION	RESPONDENT'S EDUCATION								All Educational Levels
	1	2	3	4	5	6	7	8	
1. No School	5	17	29	6	4	10	–	2	73
2. 3rd Grade Primary School	2	14	45	6	9	19	5	6	106
3. Completed Primary School	7	11	74	22	36	51	28	9	238
4. 3rd Grade Secondary School	–	1	13	9	18	9	9	5	64
5. Completed Secondary School	–	1	6	6	14	10	6	17	60
6. Technical Colleges	–	–	1	–	1	3	1	1	7
7. High Technical Colleges	2	4	3	5	3	7	–	1	25
8. Universities	–	1	2	3	6	3	3	4	22
All Educational Levels	16	49	173	57	91	112	52	45	595

Respondent's Occupational Distribution by Cohorts: Inflow Trends

COHORTS	Administratives Executives		Clerical Sales		Service Workers		Craftsmen Labourers		TOTAL
	N	%	N	%	N	%	N	%	
15-24	6	(10.72)	51	(24.88)	5	(19.23)	180	(24.66)	242
25-34	24	(42.85)	67	(32.68)	-	-	153	(20.96)	244
35-44	13	(23.22)	51	(24.88)	3	(11.54)	167	(22.87)	234
45-54	12	(21.43)	26	(12.68)	13	(50.00)	150	(20.55)	201
55-64	1	(1.78)	10	(4.88)	5	(19.23)	80	(10.96)	96
TOTAL	56	(100.00)	205	(100.00)	26	(100.00)	730	(100.00)	1017

Respondent's Occupational Distribution by Cohorts: Outflow Percentages

COHORTS	Administratives Executives	Clerical Sales	Service Workers	Craftsmen Labourers	TOTAL
15-24	2.48	21.07	2.07	74.38	100.00
25-34	9.84	27.46	-	62.70	100.00
35-44	5.56	21.79	1.28	71.37	100.00
45-54	5.97	12.94	6.47	74.62	100.00
55-64	1.04	10.42	5.21	83.33	100.00

APPENDIX C5

Respondent's Educational Distribution According to Father's Occupation at Their Age of Fourteen

RESPONDENT'S EDUCATION	FATHER'S OCCUPATION					TOTAL
	Administratives	Clerical Merchant	Service Workers	Farmers	Craftsmen-Labourers	
1. No School	-	-	2	24	10	36
2. 3rd Grade Primary School	2	4	3	54	26	89
3. Completed Primary School	6	29	10	147	115	307
4. 3rd Grade Secondary School	4	15	4	49	38	110
5. Completed Secondary School	10	34	8	29	38	119
6. Technical Colleges	5	15	14	36	67	137
7. High Technical Colleges	7	18	5	19	27	76
8. Universities	5	21	1	15	13	55
TOTAL	39	136	47	373	334	929

Actual Occupational Mobility from Father to Respondent Controlling for Educational Attainment

Fathers			RESPONDENTS								Total Fathers
			Non-Manual			Manual				Totals	
			Educational Level			Educational Level			Non-Manual	Manual	Grand Total	
			1	2	3	1	2	3				
Non-Manual	Ed Level	1	2	22	16	40	34	5	40	79	119	
		2	-	22	24	9	14	4	46	27	73	221
		3	2	9	8	2	8	-	19	10	29	
Manual	Ed Level	1	7	33	23	149	88	8	63	245	308	
		2	1	15	10	19	23	4	26	46	72	413
		3	-	8	2	16	6	1	10	23	33	
Farmers	Ed Level	1	21	27	17	193	69	7	65	269	334	
		2	1	4	9	8	11	-	14	19	33	373
		3	1	-	1	1	3	-	2	4	6	
TOTAL		1	30	82	56	382	191	20	168	593	761	
		2	2	41	43	36	48	8	86	92	178	
		3	3	17	11	19	17	1	31	37	68	
Grand Total			35	140	110	437	255	29	285	722	1007	
Total Resp.			285			722						1007

Educational Levels:

1 Low Education Level (No School - Primary School)

2 Medium Education Level (Secondary - Technical College)

3 High Education Level (Higher Education - University Background)

APPENDIX C7

Age Distribution of Fathers and Respondents
(By Cohorts)

Respondent Ages	FATHERS AGES						Total
	35-44	45-54	55-64	65-74	75-84	85-94	
15-24	15	110	72	20	2	-	224
25-34	-	19	99	70	16	1	205
35-44	-	1	22	82	36	10	157
45-56	-	-	-	19	29	30	78
55-64	-	-	-	2	1	22	25
TOTAL	15	130	198	193	84	63	683

APPENDIX C8

Empirical and Theoretical Correlations [(a)] For the First (N=221) and Fourth (N=179) Cohorts

Cohort	X_1	X_2	X_3	X_4	X_5	X_6	X_7
15-24							
X_1	1.000	.282	-.116	.225	-.047	.270	.160
X_2	.282	1.000	-.262	.282	-.022	.225	.209
X_3	-.116	-.262	1.000	-.038	-.142	-.188	-.041
X_4	.225	.282	-	1.000	-.038	.141	-.049
X_5	-	-	-	-	1.000	.313	.108
X_6	.285	.233	-.179	.134	.319	1.000	.411
X_7	.145	.213	-.060	-.042	.116	.416	1.000
45-54							
X_1	1.000	.446	-.097	.111	.023	.407	.324
X_2	.446	1.000	-.083	.206	.045	.465	.225
X_3	-.097	-.083	1.000	-.243	-.119	-.111	-.077
X_4	.225	.282	-	1.000	.071	.309	.283
X_5	-	-	-	-	1.000	.267	.233
X_6	.403	.456	-.032	.297	.267	1.000	.604
X_7	.327	.223	.004	.277	.212	.603	1.000

(a): The empirical correlations are reported in the upper half of the matrix and the theoretical ones in the lower. The variables X_5 (sex), as it is not connected in the system with the variables X_1, X_2, X_3 and X_4 , cannot reproduce theoretical correlations. The same is valid for the variables X_3 in respect to X_4.

APPENDIX D11

Distribution of Respondent's Duration in Each Job (Movers Respondents)

DURATION (Years)	RESPONDENTS IN JOB					
	First	Second	Third	Fourth	Fifth	Sixth/ More
0-1	186	164	91	50	32	21
1-2	110	81	63	37	19	10
2-3	85	66	24	17	6	7
3-4	63	42	22	14	4	2
5-9	135	75	49	26	13	14
10-14	21	8	7	2	4	2
20-29	39	2	6	-	2	-
30-39	30	2	1	-	-	-
TOTAL	748	467	278	151	82	59

APPENDIX D12

Distribution of Duration at The First Job of Respondents Making Only One Shift and Stayed There Permanently

Duration (years)	Number of Respondents	Measures
0-1	22	
1-2	29	
2-3	19	Mean = 11.79
3-4	21	Standard Deviation = 10.47
5-9	60	
10-14	52	
15-19	13	
20-29	37	
30-39	28	
TOTAL	281	

APPENDIX D21

Distribution of Employees into Sectors of Economic Activities in the Successive Years 1965-1974

	YEARS									
	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965
Agriculture - Mining		5 (.5)	18 (2.0)	25 (3.0)	37 (4.8)	45 (6.3)	48 (7.1)	47 (7.2)	52 (8.1)	53 (8.5)
Manufacturing	1017 (100.0)	941 (96.4)	847 (92.5)	753 (89.4)	672 (86.5)	584 (81.5)	537 (79.1)	525 (80.4)	488 (75.9)	463 (73.8)
Trade		6 (.6)	14 (1.5)	15 (1.8)	19 (2.4)	21 (2.9)	27 (4.0)	26 (4.0)	27 (4.2)	30 (4.8)
Services		6 (.6)	9 (.9)	9 (1.1)	11 (1.4)	11 (1.5)	10 (1.5)	10 (1.5)	16 (2.5)	17 (2.7)
Miscellaneous		18 (1.9)	28 (3.1)	40 (4.7)	38 (4.9)	56 (7.8)	57 (8.3)	45 (6.9)	60 (9.3)	64 (10.2)
TOTAL	1017 (100.0)	976 (100.0)	916 (100.0)	842 (100.0)	777 (100.0)	717 (100.0)	679 (100.0)	653 (100.0)	643 (100.0)	627 (100.0)

Inter-Sector Immobility and Particularly Industrial Immobility of Respondents Working the Last Ten Years (By Cohorts)

	15-24		25-34		35-44		45-54		55-64	
	Immob.	Ind. Immob.	Immob.	Ind. Immob.	Immob.	Ind. Immob.	Immob.	Ind. Immob.	Immob.	Ind. Immob.
1974-1973										
1973-1972	86.7	73.3	97.2	94.4	95.3	94.8	93.7	90.3	97.6	97.6
1972-1971	92.8	71.4	96.4	93.4	96.9	92.7	95.4	86.7	97.6	95.2
1971-1970	100.0	78.6	98.4	92.0	96.4	89.7	93.1	82.2	94.0	88.1
1970-1969	100.0	80.0	95.7	86.3	97.4	88.6	94.1	77.8	96.4	84.3
1969-1968	100.0	81.2	95.6	84.2	98.4	89.0	97.1	74.4	95.1	81.7
1968-1967	100.0	77.8	100.0	84.7	97.9	87.4	100.0	73.8	94.0	77.4
1957-1966	100.0	77.8	96.2	81.7	97.4	84.5	98.3	72.8	98.8	75.6
1966-1965	100.0	77.8	95.7	76.1	98.9	84.3	98.8	72.4	95.3	70.9
Number of Respondents	18		143		198		176		84	

Intragenerational Occupational Status Immobility (Duncan's Socioeconomic Index) By Groups of Ages

	GROUP OF AGES				
	15-24	25-34	35-44	45-54	55-64
1974-1973	88.9	98.6	97.5	99.4	100.0
1973-1972	94.4	99.3	98.0	99.4	100.0
1972-1971	100.0	98.6	98.0	98.9	97.4
1971-1970	100.0	97.9	98.0	97.3	98.7
1970-1969	100.0	97.9	98.0	97.8	97.4
1969-1968	100.0	99.3	99.5	98.9	98.7
1968-1967	100.0	98.6	98.5	98.9	98.7
1967-1966	94.4	99.3	99.5	98.9	98.7
1966-1965	99.4	99.3	99.5	100.0	98.7
1965-1974	84.5	86.9	88.0	90.8	91.0

Intragenerational Occupational Status (Duncan SEI) Immobility in the Successive Years 1965-1974 By Sex

	1974-1973	1973-1972	1972-1971	1971-1970	1970-1969	1969-1968	1968-1967	1967-1966	1966-1965	1965-1974
Males	97.7	96.0	95.3	96.3	97.3	97.9	98.4	98.4	98.7	84.6
Females	96.2	95.8	98.1	97.9	96.2	96.9	98.9	99.4	98.7	90.5

APPENDIX D3

Distribution of Employees of Industrial Sector According to The Size of Establishment (By the Criterion of the Number of Employees)

Number of Employees	YEARS									
	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965
- 19	-	37 (9.3)	58 (6.8)	63 (8.4)	72 (10.7)	70 (12.0)	82 (15.3)	91 (17.5)	90 (18.4)	93 (20.1)
20 - 49	168 (16.6)	160 (17.0)	140 (16.6)	126 (16.8)	105 (15.6)	93 (15.9)	85 (15.8)	83 (15.9)	73 (15.0)	66 (14.3)
50 - 99	228 (22.5)	200 (21.3)	166 (19.7)	134 (17.8)	110 (16.4)	87 (14.9)	71 (13.2)	71 (13.7)	66 (13.5)	62 (13.4)
100 - 199	273 (26.9)	215 (22.9)	182 (21.6)	159 (21.1)	139 (20.7)	122 (20.9)	102 (19.0)	93 (17.8)	80 (16.4)	69 (14.9)
200 - 499	209 (20.6)	188 (20.0)	177 (21.0)	153 (20.3)	139 (20.7)	110 (18.8)	104 (194.)	98 (18.8)	88 (18.0)	82 (17.7)
500 +	136 (13.4)	140 (14.9)	121 (14.3)	117 (15.6)	107 (15.9)	102 (17.5)	93 (17.3)	85 (16.3)	91 (18.7)	91 (19.6)
TOTAL	1014 (100.0)	940 (100.0)	844 (100.0)	752 (100.0)	672 (100.0)	584 (100.0)	537 (100.0)	521 (100.0)	488 (100.0)	463 (100.0)

First and Second Reasons Reported by Respondents as Motives for Changing Jobs

FIRST REASON FOR CHANGING JOBS	SECCND REASON FOR CHANGING JOBS						TOTAL
	1	2	3	4	5	6	
1. Financial Reasons	-	9	41	9	6	2	67
2. Personal - Family Reasons	4	-	6	4	5	-	19
3. Working Conditions	21	8	-	4	5	1	39
4. Openings for Advancement	8	2	1	-	1	-	12
5. Dismissal	13	3	6	3	-	-	25
6. Miscellaneous	-	1	-	-	-	-	1
TOTAL	46	23	54	20	17	3	163

Reasons Motivated Respondents To Change Jobs by Their Age, Sex and Marital Status

	GROUPS OF AGE					SEX		MARITAL STATUS	
	15-24	25-34	35-44	45-54	55-64	Males	Females	Single	Married Divorced Widowed
Financial Reasons	(31.0)	(46.6)	(49.0)	(35.8)	(43.4)	(49.2)	(21.6)	(36.9)	(45.7)
Family - Personal Reasons	(12.0)	(11.0)	(12.6)	(15.2)	(9.6)	(10.2)	(17.5)	(9.5)	(12.7)
Working Conditions	(27.5)	(15.7)	(10.3)	(11.5)	(9.6)	(8.9)	(30.7)	(21.2)	(10.0)
Openings for Advancement	(14.0)	(11.0)	(8.6)	(6.0)	(1.2)	(10.5)	(4.8)	(11.6)	(8.0)
Dismissal	(11.3)	(10.5)	(14.9)	(26.7)	(28.9)	(15.5)	(22.0)	(15.8)	(18.0)
Miscellaneous Reasons	(4.2)	(5.2)	(4.6)	(4.8)	(7.3)	(5.7)	(3.4)	(5.0)	(5.6)
TOTAL	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Reasons Motivated Respondents to Change Jobs by Their Occupational Status

REASONS FOR CHANGING JOBS	OCCUPATIONAL STATUS			
	0-20	21-40	41-60	61-90
Financial Reasons	125 (37.2)	70 (53.5)	80 (38.8)	25 (45.4)
Family - Personal Reasons	52 (15.5)	12 (9.2)	22 (10.7)	5 (9.1)
Working Conditions	59 (17.6)	13 (9.9)	33 (16.0)	5 (9.1)
Openings for Advancement	16 (4.8)	13 (9.9)	28 (13.6)	6 (10.9)
Dismissal	67 (19.9)	18 (13.7)	33 (16.0)	9 (16.4)
Miscellaneous	17 (5.0)	5 (3.8)	10 (4.9)	5 (9.1)
TOTAL	336 (100.0)	131 (100.0)	206 (100.0)	55 (100.0)

Reasons Motivating Respondents to Stay Permanently in The Same Job By Their Age, Sex and Marital Status

REASONS	AGE GROUP					SEX		MARITAL STATUS	
	15-24	25-34	35-44	45-54	55-64	Males	Females	Single	Married Divorced Widowed
Financial reasons	17 (17.7)	8 (12.5)	6 (10.9)	2 (6.9)	1 (8.3)	19 (15.8)	15 (11.0)	19 (13.6)	15 (13.8)
Family - personal reasons	6 (6.3)	3 (4.7)	4 (7.3)	3 (10.3)	2 (16.7)	7 (5.8)	11 (8.1)	7 (5.0)	11 (10.1)
Working conditions	24 (25.0)	24 (37.5)	10 (18.2)	10 (34.5)	3 (25.0)	29 (24.2)	42 (30.9)	41 (29.5)	26 (23.9)
Openings for advancement	31 (32.3)	12 (18.8)	25 (45.5)	7 (24.1)	4 (33.3)	47 (39.2)	32 (23.5)	42 (30.0)	36 (33.0)
Habit	13 (13.5)	17 (26.6)	9 (16.4)	6 (20.7)	2 (16.7)	16 (13.3)	31 (22.8)	27 (19.3)	18 (16.5)
Miscellaneous reasons	5 (5.2)	- -	1 (1.8)	1 (3.4)	- -	2 (1.7)	5 (3.7)	4 (2.9)	3 (2.8)
TOTAL Number Percentage	96 (100)	64 (100)	55 (100)	29 (100)	12 (100)	120 (100)	136 (100)	140 (100)	109 (100)

Reasons Motivating Respondents to Stay Permanently in The Same Job By Their Occupational Status

REASONS	OCCUPATIONAL STATUS							
	0-20		21-40		41-60		61-90	
	No.	%	No.	%	No.	%	No.	%
Financial reasons	15	(13.39)	3	(7.9)	14	(15.22)	2	(15.38)
Family - personal reasons	10	(8.93)	4	(10.53)	4	(4.35)	-	-
Working conditions	29	(25.89)	13	(34.21)	23	(25.0)	5	(38.47)
Openings for advancement	34	(30.36)	9	(23.68)	33	(35.87)	3	(23.08)
Habit	23	(20.54)	8	(21.05)	15	(16.30)	1	(7.69)
Miscellaneous	1	(0.89)	1	(2.63)	3	(3.26)	2	(15.38)
TOTAL	112	(100.00)	38	(100.00)	92	(100.00)	13	(100.00)

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