

Mannheimer

Zentrum für

Europäische

Sozialforschung

Arbeitspapiere

AB I / Nr. 6

Walter Müller, Wolfgang Karle

Social Selection in
Educational Systems in Europe

Working Papers



Mannheim Centre for European Social Research

1993

Walter Müller
Wolfgang Karle

Social Selection in Educational Systems in Europe

Müller, Walter and Karle, Wolfgang

Social Selection in Educational Systems in Europe

Mannheimer Zentrum für Europäische Sozialforschung (MZES)

Arbeitspapier AB I (Arbeitsbereich I) / Nr. 6

Mannheim 1993

Redaktionelle Notiz:

*Prof. Dr. Walter Müller ist Inhaber des Lehrstuhls für Methoden der empirischen Sozialforschung und angewandte Soziologie. Er hat zusammen mit Prof. John Goldthorpe und Prof. Robert Ericson das CASMIN - Projekt "**C**omparative **A**nalysis of **S**ocial **M**obility in **I**ndustrial **N**ations" geleitet.*

Wolfgang Karle ist Mitarbeiter am Lehrstuhl für Methoden der empirischen Sozialforschung und angewandte Soziologie und war Projektmitarbeiter im CASMIN-Projekt.

*Das Arbeitspapier ist ein **reprint** des in der "European Sociological Review", Vol. 9 No. 1, May 1993 erschienenen Aufsatzes.*

Inhalt

INTRODUCTION	1
DATA AND METHODS	4
VARIATION IN THE DISTRIBUTION OF EDUCATION AMONG DIFFERENT SOCIAL CLASSES	6
THE SURVIVAL PATTERN AND SOCIAL SELECTIVITY IN EDUCATIONAL TRANSITIONS	9
NATIONAL VARIATION IN EDUCATIONAL TRANSITIONS	15
SUMMARY AND CONCLUSIONS	18
Notes	20
Acknowledgements	21
References	21
Appendix	23

Social Selection in Educational Systems in Europe

WALTER MÜLLER AND WOLFGANG KARLE

ABSTRACT School systems are typically organized as a series of progressions through which the student population moves. At each successive step only a fraction of the population survives and children of different social origins drop out at different rates. With data from the CASMIN project for nine European nations, this paper studies the similarities and differences between nations in the interplay between the general survival pattern and class-related transition rates. In the nations studied, education is distributed in different ways and with differential results for the social classes. For the cohorts studied, the considerable differences between nations in the unequal distribution of education to the offspring of the various social classes is mainly due to the cross-national differences in the general opportunities of attaining the various levels of education, and to the channelling of the student population through the educational institutions and transitions. They are less significantly due to differences between nations in the class effects on transitions. The pattern of class effects on transitions is highly similar among nations, although for single nations several specific deviations from the common pattern can be observed. It is argued that differences among nations in class effects result from historical, institutional, or political peculiarities of those nations, rather than from macro-sociological properties such as level of industrial development.

INTRODUCTION

The most elaborate and far-reaching theoretical attempts to explain differences across nations in educational inequalities by social origin have been made as part of a particular variant of the theory of industrial societies. Educational inequalities are understood as a crucial variable in the reproduction of social inequalities and the role education plays in this process is assumed to be systematically linked—partly through functional imperatives—to the level of industrial development. Industrialism is seen to be the driving force in changing the pattern of the dependence of educational attainment on social origin. Industrialization affects the distribution of resources, and it also affects the utility of education, particularly its utility in the labour-market.

Most explicitly, the crucial hypotheses have been proposed in terms of the Blau and Duncan

(1967) model of the status-attainment process in a stimulating paper by Treiman (1970). Several of these hypotheses have recently been restated: 'Industrialized societies will tend to be more open than nonindustrialized societies', and more precisely with respect to our topic here: 'The more industrialized a society, the smaller the influence of parental status on educational attainment' (Treiman and Yip, 1989: 375). This tendency toward decreasing effects of social origin on educational attainment is explained by the assumption that more industrialized societies have a lower degree of status inequality. Relevant material, cultural, and social resources are assumed to be distributed less unequally between the various status levels in the stratification hierarchy. In more advanced industrial societies, in consequence, decreasing differentials in educational attainment by social origin are expected. A further reason for the assumption of declining social origin differences in educational

attainments is 'that free education is more readily available in industrialized societies and hence in particular is more readily available to those from low status origins' (Treiman and Yip, 1989: 376). In other words, it is assumed that the costs of education decline and that therefore resource inequalities have a lesser impact on educational outcomes.

By linking industrialization to the level of status inequality in a given society, a rather general theory for explaining differences among nations in the effects of origin status on educational attainment is pursued. Indeed, the theory should explain the decline in social-origin effects that are expected in the course of industrial development as well as differences among nations at a similar level of industrial development if the nations differ (for some additional reasons) with respect to the level of status inequality existing in them.

The hypothesis that inequality of condition causes inequality of opportunity certainly has considerable power for explaining the general finding that educational attainment depends on social origin. The assumed links with industrialization, however, appear doubtful. There is so much variation in economic inequality among societies of similar industrial development that one can question the assumption that industrialization is the major factor responsible for the degree of status inequality in a given society. Furthermore, industrial societies do not continuously develop in the direction of less inequality as industrialization progresses. The developments in the United States or in Great Britain, where inequalities in the distribution of resources have clearly increased in recent years (Ryscavage and Henle, 1990; Atkinson, 1991), illustrate this point.

Treiman and Yip (1989) present evidence for more than 20 nations at different levels of industrial development in order to test the industrialization hypothesis. The nations included in their study range from India and the Philippines to the United States. Although the results point in the direction of the hypothesis proposed, they are not convincing. Most of the central parameters are within the margins of random error, and a sensitivity analysis shows

that the results are not stable.¹ It is thus questionable whether the explanations of cross-national differences in terms of general macro-sociological changes implied by the industrialization thesis are supported by the empirical evidence that the proponents of the hypotheses present. The trend studies on the development of the inequalities in educational attainment over time that have recently become available from many countries overwhelmingly report negative evidence (see the contributions in Shavit and Blossfeld, forthcoming; Blossfeld and Shavit, forthcoming; Heath, undated). Only in a few cases do these studies find declining effects of social origin on educational attainment (see De Graaf and Ganzeboom, forthcoming, for the Netherlands; Jonsson and Mills, forthcoming, for England and Sweden).

Inherent in the approaches based on general macro-structural characteristics of societies is the assumption that industrialism works the same way in all societies. The industrialization approach has scarcely paid any attention to the possibility that a different pattern of the institutionalization of education might affect the distribution of education among classes. The homogenizing pressures of modernization and industrial development may have different effects in societies where the historical development of educational institutions has differed. Education belongs to the part of the institutional infrastructure of societies that varies greatly from society to society. Societies have developed different early solutions to career preparation, and the early solutions have influenced later adaptations. If one traces the historical development of educational systems in Europe, for instance, two aspects are amazing: first, how different the educational systems are that have slowly evolved since the last century in various European countries, and second, the great extent to which the present educational systems still mirror their beginnings, although each of these systems has seen extensive reforms and adaptations (Ringer, 1979; Archer, 1979; 1989; König *et al.*, 1988; Müller 1990).

As a consequence we find more or less idiosyncratic conditions present in some countries but not in others. Various properties of

educational systems contribute to the fact that educational outcomes vary with the social background of children and students: the way the school system is organized into curricula; the age at which the assignment to different tracks occurs; the criteria according to which selection is made at any point in the school career; the costs linked with education in private or public schools. From extensive work on school effects (Coleman *et al.*, 1966; Jencks, 1985; Sørensen and Hallinan, 1986; Coleman and Hoffert, 1987; Hallinan, 1988; Kerckhoff, 1989; 1992; Meyer, 1980; Shavit, 1990) we know that these and other factors are important, although the effect of each single factor tends to be small.

Recent research has also shown that there is considerable variation among different societies in the extent to which access to more or less advantageous positions in the labour-market depends on qualifications obtained in the educational system (König and Müller, 1986; Allmendinger, 1989; König, 1990). Such differences in the instrumental value of education should also differentially affect the decisions in different social classes to invest in education.

The crucial factor that is addressed in this paper concerns the distribution of the various kinds of qualifications and of educational credentials that the educational institutions provide to the cohorts of students that move through the educational system. We will show that in this respect considerable differences exist among countries and that these differences also contribute to the fact that countries vary in the differential educational attainment of the offspring from different social backgrounds.

For explaining what we mean by this we can draw on Mare's (1980; 1981) suggestion of disentangling two processes in analysing class differences in educational attainment. School systems are typically organized as a series of steps which the student population moves along. At each successive step, only a fraction of the population survives. Let us call this successive shrinking of the student population the general *survival pattern*. It represents the unconditional distribution of educational credentials that are made available to a cohort of students who move through the educational system under the

particular conditions of a given time in a given nation.

This general survival pattern is not class- or colour-blind. In each of the successive progressions, social selectivity occurs. Children of different social origins drop out at different rates. Moreover, as has been shown in a number of studies (Mare, 1980; 1981 for the US; Smith and Cheung, 1986 for the Philippines; Hout, 1989 for Ireland; Cobalti, 1990 for Italy; and the contributions in Shavit and Blossfeld, forthcoming, for various other countries), it is reasonable to assume that social selectivity varies in a systematic way over the set of progressions. The effects of social origin on drop-out or survival are regularly found to be stronger in the transitions at the lower levels of education than in the transitions at higher levels. Mare (1980; 1981; forthcoming) and Hout (1989) show that this decline in origin effects in the sequence of transitions is partly (but not completely) due to differences in ability among the offspring of different social classes that survive earlier transitions. The stronger effects of social origin in earlier progressions should also depend on the fact that the younger a person is, the more dependent he or she will be on the opinion of the parents and the social conditions at home. With growing maturity, a person will be more able to decide on his or her own and will also be less dependent on parental resources, particularly if higher education is a more or less free good and subsidies are available to support the economically less advantaged in acquiring it.

Educational systems differ considerably with respect to the extent to which they allow a cohort of students to survive. One system may sort out large proportions of students early on and let only a small minority continue beyond a minimum level. Those selected to continue, however, may have a high chance of surviving to the very end of the educational course. In another system, drop-out may be organized in a more continuous way. Considerably larger proportions of children survive beyond the minimum educational level, but in a tournament-like process they have to compete at each successive level, and at each level only a limited portion of the school population survives.

Eventually, only a proportion similar to that in the first system may attain the highest educational level. Indeed, one of the indicators Turner (1960) used in his distinction of contest vs. sponsorship systems was precisely the point in the life-course at which children are selected to drop out of school or to receive further education.

If social origin affects drop-out at earlier and later transitions differently, educational systems that provide different survival opportunities at various transition points will produce a different distribution of educational qualifications among the social classes. In the final distribution of educational qualifications, societies may differ considerably even if at each transition they do not differ in the extent of social selectivity that occurs. Building on Mare's distinction and on research pursued in this vein, we propose to concentrate on the interplay between the institutional organization of the survival pattern and the social selectivity that occurs at various transition points in order to understand how educational credentials are distributed among social classes in different societies.

Besides this crucial mechanism producing cross-national variation in the distribution of education to different social classes, nations also may differ in more particular conditions that are responsible for the variation in the success-rate of children from different social classes. Such conditions can be associated with differences in the relative location of particular classes in the class structure, with specific educational traditions followed in different classes, or with measures of educational policies intended to alter the distribution of education, for example. We will consider such peculiarities in accounting for variation across countries that remains even after controlling for differences in the general survival pattern.

Social origin is deliberately conceived in terms of social classes, and educational participation is looked at from the perspective of the intergenerational reproduction of class positions. As will become evident from the results of the analyses, this perspective is particularly suited to understand findings on educational participation that are at odds with the expectations one would hold if participation in education were to

depend on the position of the family in a vertical dimension of socio-economic status or prestige.

In the following sections, we will first describe the data and methods used in the subsequent analysis. Then we will present the findings on variation in the distribution of education to different classes in the countries studied. Next we will analyse the interplay of the cross-nationally diverging organization of the general survival pattern and the cross-national similarity in social selectivity that we observed for the various educational transitions. We then report on the deviations from the basic pattern of social selectivity that we find for several nations, and finally we conclude with a short discussion of the main findings.

DATA AND METHODS

The countries in this study are the nine European nations studied in the CASMIN project: three countries of continental Western Europe (the Federal Republic of Germany, France, and Sweden), four regions within the British Isles (England and Wales, Scotland, Northern Ireland, and the Republic of Ireland), and two East European nations (Hungary and Poland). The database used in this paper is the same as the one used and described by Erikson and Goldthorpe (1992: 47-53). The total number of observations for all nations included in the analysis is 67,635.

The analysis only relates to men in the 30-65 age-group. This age-group has been selected in order to avoid problems of comparability linked to the fact that the different nations differ with respect to the age at which the highest educational degrees are usually acquired.

Since the data we will analyse were collected in the early 1970s, the individuals selected for study were born between 1910 and 1947. Most of the subjects studied left schools and universities before 1970. Only a very small number of them were affected in their educational careers by the educational reforms implemented in the 1960s and 1970s in the West European nations; in Eastern Europe educational reforms had been implemented earlier. Special attention will have to be given to these differences in interpreting the results.

TABLE 1 *Class schema*

I	Service class I
II	Service class II
III	Routine non-manual
IVa, IVb	Small proprietors; petty bourgeoisie
IVc	Farmers and smallholders
V/VI	Skilled manual workers
VIIa	Unskilled manual workers
VIIb	Agricultural workers

In the analyses we will use three variables: nation, respondent's class of origin, and highest qualification obtained by the respondent up to the time of the interview. For origin class we use the class schema explained in Table 1, which is adopted from Erikson and Goldthorpe (1987a: 58).

For the educational classification we use a schema of qualification levels based on a detailed study of each nation's educational system that is described in detail in König *et al.* (1988). Given that the educational systems of the different nations show a considerable number of institutional differences, comparability is very difficult to establish. In the elaboration of the classification schema, we considered the establishment of functional equivalence in relation to the effects of education on processes of social mobility to be our crucial aim. The different educational categories were therefore defined so as to reflect to the greatest extent possible the typical, class-specific barriers in the educational system and grasp the differentiations in the educational courses and certificates that are relevant in the labour-market.² In summary, our educational classification consists of the eight categories shown in Table 2.

TABLE 2 *Educational classification*

1a	Inadequately completed elementary education
1b	Completed (compulsory) elementary education
1c	(Compulsory) elementary education and basic vocational qualification
2a	Secondary, intermediate vocational qualification
2b	Secondary, intermediate general qualification
2c	Full secondary, maturity level certificate
3a	Tertiary education, lower-level tertiary degree
3b	Tertiary education, higher-level tertiary degree

In most of the following analyses of educational transitions, the categories 1a and 1b and the categories 2a and 2b have been collapsed. The collapsed categories represent an ordering of educational credentials in which the value of the credential on the labour-market successively increases. It does not, however, exactly correspond to a strict order of educational transitions in the sense that in each case a preceding level has to be acquired before the courses leading to the next level of certificates could be entered.³ Rather, we look at the final outcomes irrespective of the route that may have been followed to reach them. Nevertheless, using the educational classification given in Table 2, the set of transitions that are defined in Table 3 can be constructed and understood in a sociologically meaningful way if we state more precisely what is considered as success and as failure in each of the transitions.

Transition T₁ singles out as failures members of a cohort who receive only the social minimum of education or less. This level of education can be achieved by following the tracks of elementary education prescribed as minimal options by the laws on compulsory schooling. Success means continuation of education to a defined qualification level beyond the social minimum of education. Typically there are two possibilities through which the transition to a higher level of qualification (success) occurs. The first is to get access—through a selective procedure—to a more demanding track of secondary schooling during the period of compulsory schooling (often at ages 10–12); the second is to follow the elementary tracks of compulsory schooling but to extend education beyond the minimal legal requirement, mostly through a programme of vocationally oriented training.

Transition T₂ differentiates—to a very large extent—between the two success options of continuation in transition T₁. Failure at transition T₂ then means leaving the educational system with a basic level of vocationally oriented training. Success either means entrance in a course of selective secondary education (the more frequent route) or continuation on more demanding vocationally oriented courses.

At transition T₃ among those who reached secondary education or advanced occupational

TABLE 3 *Definitions of educational transitions*

Transition	Qualification level that is obtained at least through transition	Description of choices
T ₁	1c	at most elementary education as required by compulsory schooling ('social minimum' of education) vs. continuing education beyond elementary education required by laws of compulsory schooling
T ₂	2a, 2b	<i>given continuation beyond compulsory schooling</i> vocationally oriented courses in addition to elementary school education vs. entrance and (at least partial) success in programmes of advanced secondary or tertiary education
T ₃	2c	<i>given entrance in programmes of advanced secondary or tertiary education</i> only intermediate secondary certificates vs. full secondary or tertiary education
T ₄	3a	<i>given education beyond intermediate secondary certificates</i> only completion of full secondary education (at maturity level) vs. educational courses leading to degrees of tertiary education
T ₅	3b	<i>given tertiary education</i> lower tertiary degree vs. higher tertiary degree

training, we consider as failures those who leave the educational institutions with only a certificate of intermediate qualifications. Successes are those who continue to a full secondary (maturity) certificate or to other programmes that lead to tertiary education certificates.⁴

Beyond secondary education we define two further transitions: in transition T₄ we single out as failures those members of a cohort who leave the educational system with only a certificate of full secondary education. Successes are considered to be those who enter and successfully finish any form of tertiary professional education. At transition T₅, we finally distinguish whether a person has acquired a lower or a higher degree of tertiary education. In some countries a higher degree may be achieved consecutively to a lower degree; in other countries a decision has to be taken at transition T₄ between alternative programmes of study, some of which lead to lower degrees of tertiary education and others to higher degrees.

VARIATION IN THE DISTRIBUTION OF EDUCATION AMONG DIFFERENT SOCIAL CLASSES

In the analyses of these transitions, we will

pursue two lines of investigation consecutively. At the first stage we study the cross-national similarities and variations in the socially selective outcomes of the educational process. At the second stage we focus on the mechanisms through which these outcomes and their cross-national variations are achieved.

To begin, let us imagine that a cohort of children moves through the educational system defined by the transitions described above. At each transition point some children drop out in a socially selective way. As the cohort moves on, transition by transition, the social composition of the survivor group changes. Figure 1 illustrates one aspect of the changing social composition of the survivors in the educational course that we observe for the nations studied. It shows the changes in the proportions among the survivors who are sons of service-class fathers. In order to control for the cross-national variation in the composition of the cohorts studied according to social origin, the data are standardized to an identical origin distribution for all nations (the distribution assumed is the average size of the origin classes in all countries). Therefore all the lines in Figure 1 originate at the same point. This point represents the average proportion of

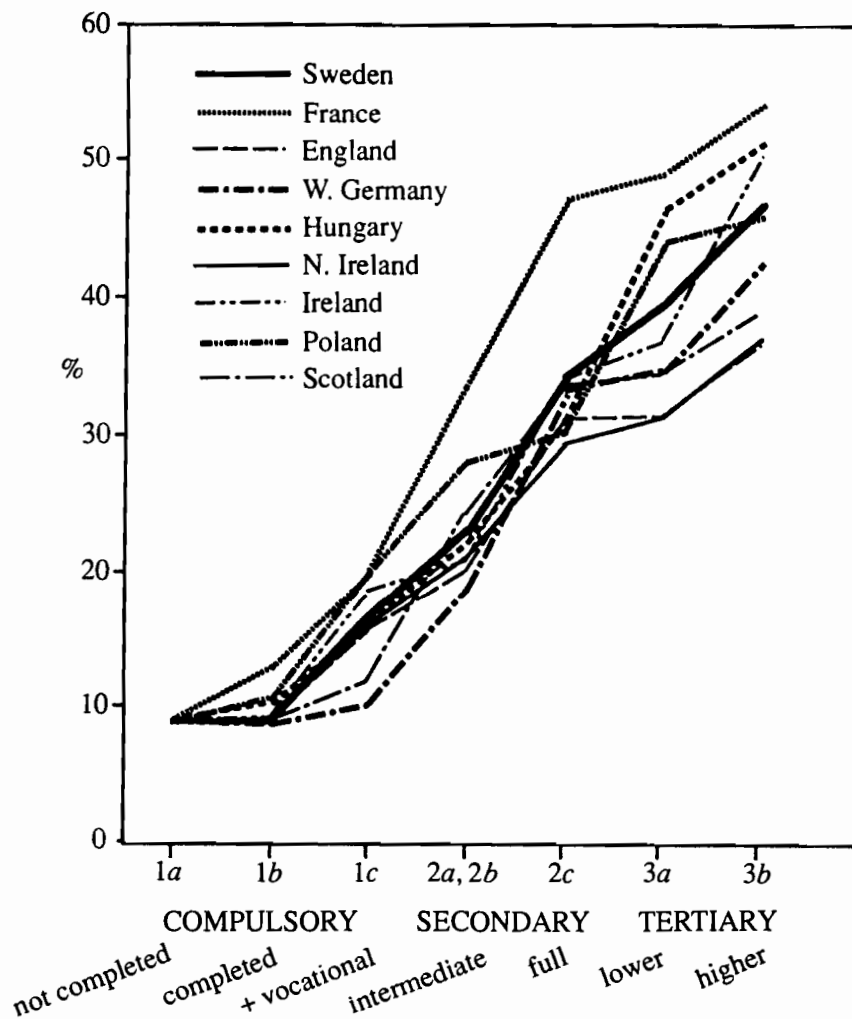


FIGURE 1 Percentages of class I or class II origin among students who attain successive qualification levels; data standardized by social origin

service-class fathers in the nine countries. It corresponds to the proportion of service-class origins among the children at the stage of entrance into the school systems, that is before any social selection has occurred.

As we would expect, service-class sons continually increase their share among the survivors in the educational competition. From less than 10 per cent in the student population in the first years of schooling, the service-class proportion grows to a cross-national average of about 45 per cent among those who successfully attain a higher tertiary degree. The average, however, badly represents the quite substantial variation among the nations. In the course of successive transitions, the cross-national variation clearly increases. At the end of secondary education the contrast is highest

between France and all other countries, but the differentiation among the nations becomes increasingly larger throughout tertiary education. Finally, at the highest educational level, we find the countries spread along a considerable range, the extremes of which are represented by France and England: in France more than 55 per cent of graduates have grown up in one of the two service classes; in England only 35 per cent do.

England does not stand alone at the lower end of social selectivity in the distribution of educational credentials. It is joined by Scotland and Northern Ireland—countries whose educational systems have much in common, at least if compared to the educational systems in other European countries. England is not just an extreme case: it shares its more

SOCIAL SELECTION IN EDUCATIONAL SYSTEMS IN EUROPE

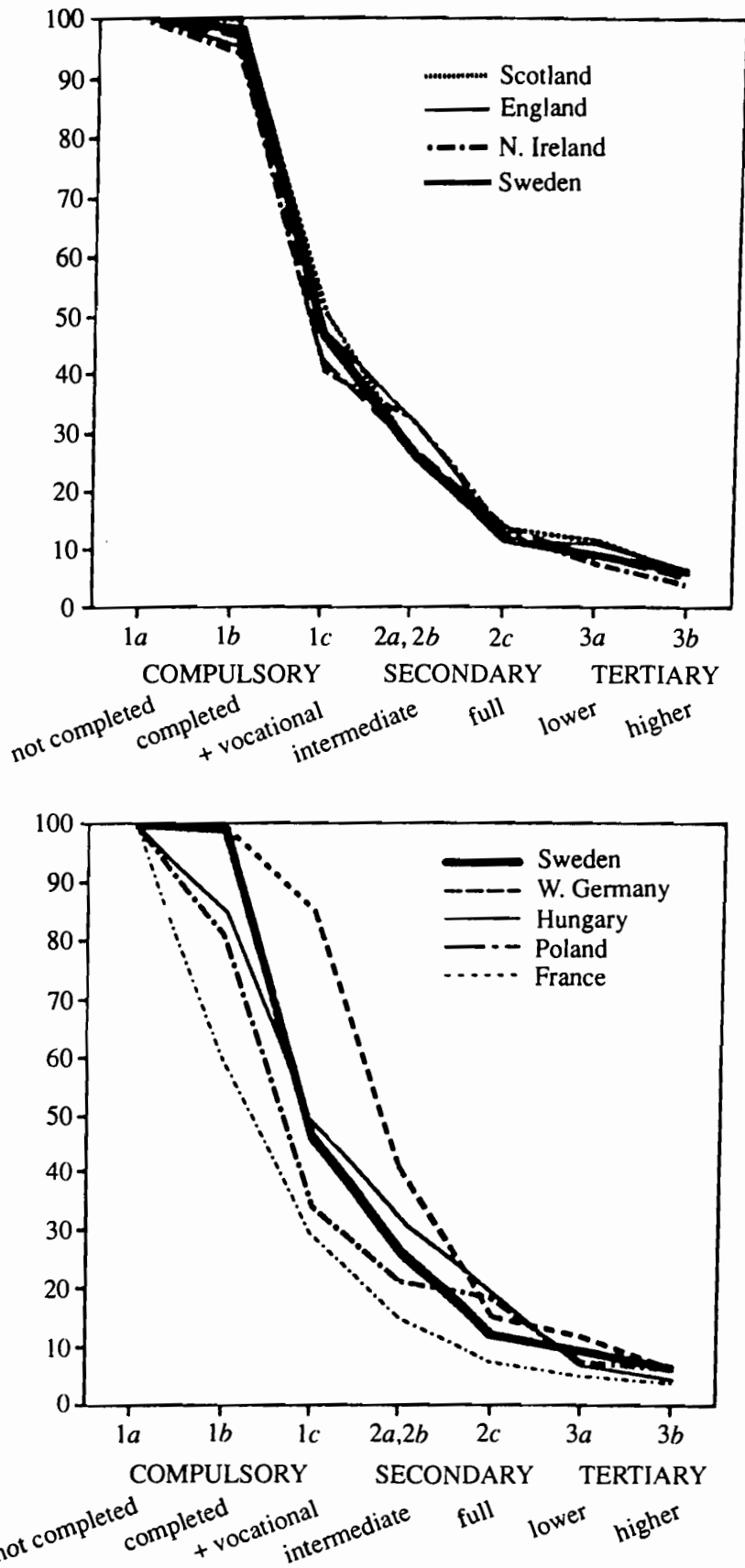


FIGURE 2 Survival rates in the educational systems of nine European nations (male, aged 30-65)

egalitarian position with the other nations in Great Britain

An interesting contrast exists between France and Germany. Already by the termination of compulsory schooling, the proportion of service-class children is highest in France, and France holds this position throughout all the transitions. In Germany, on the other hand, the proportion of service-class children is smallest until an intermediate secondary degree, but then catches up to reach an intermediate position at the end-point of the educational career.

According to the indicator used here, Hungary and Poland are not among the more egalitarian countries. Hungary in particular has the second largest proportion of certificates of higher education given to the higher social classes in our list of countries.

We have illustrated this view of the socially selective participation in ever higher levels of education focusing on the proportions of service-class sons. The pattern of the lines representing the other classes is more or less the reverse of those of the service classes. Their proportions are largest at the lowest level of education considered, and they tend to become smaller as we move up the educational ladder.⁵ But what we intend to show should be sufficiently clear from Figure 1. Social selection in the school system is a cumulative process. At a number of transitions students drop out of the school system in a socially selective way. In this process the social composition of the student population in all countries continually changes in favour of children from service-class families, but *countries clearly differ* in the extent to which the most advantageous educational credentials are distributed to these classes. Even if we control for the varying class structures in the parental generation *a considerable degree of cross-national variation remains*.

THE SURVIVAL PATTERN AND SOCIAL SELECTIVITY IN EDUCATIONAL TRANSITIONS

In this section we examine more closely how this variation comes about. We try to disentangle the interplay between the global survival pattern and the social selectivity occurring at each of

the transitions, and we try to measure the extent to which the cross-national variation in the outcomes that we have observed can be accounted for by these two constituent factors.

As we already know from earlier analyses (Müller *et al.*, 1990), the nations included in this study differ greatly in the extent to which they provide opportunities for earning educational credentials to the cohorts studied here. This is reflected in the general survival pattern for the nine nations shown in Figure 2.

To make differences and similarities clearer, the figure is split into two parts: the upper graph documents the similarity in the survival pattern of Sweden and all nations of the British Isles. Germany, Hungary, Poland, and France clearly differ from this pattern and between themselves, as can be seen from the lower graph in Figure 2 that, in order to facilitate comparisons, also includes the pattern for Sweden. The largest contrast in Figure 2 is between Germany and France. In Germany 85 per cent of a cohort survives beyond completion of compulsory education and obtains at least vocational training, in France only 30 per cent. The German system also allows a higher proportion to survive until the intermediate level of secondary education, whereas France appears to be the most exclusive country throughout the educational career. In Hungary the chances of surviving through a full secondary education are better than in most of the countries. The other former socialist country, Poland, is close to France during and at the end of compulsory schooling, but only has a very low drop-out rate among those who make it into secondary schools. Indeed, together with Hungary, Poland has the highest survival rate up through a full secondary education. Given the high degree of variation among the nations in the early survival patterns, the extent of similarity at the upper end of the educational system is surprising. Indeed, at this point the differences among nations are only marginal.

In order to grasp the interplay of these varying survival patterns with the processes of social selection occurring at the various transitions, conditional logistic regression models were used. The outcome to be predicted is whether a person who has attained a given level of education

TABLE 4 Goodness-of-fit statistics for selected logistic models of educational transitions: men aged 30–65 in nine European nations (sample size standardized)^a

Terms in the model ^b		df	L ²	%L ²	bic
1	<i>M</i>	359	26815.9	100.0	22600
2	<i>M T</i>	355	24763.5	92.3	20595
3	<i>M N</i>	351	24476.8	91.2	20355
4	<i>M T N</i>	347	22761.5	84.8	18687
5	<i>M T N TN</i>	315	13803.2	51.4	10104
6	<i>M O</i>	352	15523.5	57.8	11390
7	<i>M O T N TN</i>	308	3607.8	13.4	-8
8	<i>M O T N TN TO</i>	280	1482.1	5.5	-1805
9	<i>M O T N TN TO ON</i>	224	874.3	3.2	-1755
10	<i>M O T N TN TO'</i>	286	1496.5	5.5	-1861
11	<i>M O T N TN TO' V</i>	283	772.3	2.8	-2550

^afor each nation, sample size is standardized to sample size averaged over all nations.

^b*M*=Grand mean; *T*=Educational transition; *N*=Nation; *O*=Origin; *V*=levels of *O***T***N*-interaction indicated by 3 dummy variables (see below).

Variables are coded in the following way:

T: a set of dummy variables based on the following categories:

- 1 = leaving at level 1*a*, 1*b* vs. continuation to level 1*c* or higher
- 2 = leaving at level 1*c* vs. continuation to level 2*a*, 2*b* or higher
- 3 = leaving at level 2*a*, 2*b* vs. continuation to level 2*c* or higher
- 4 = leaving at level 2*c* vs. continuation to level 3*a* or higher
- 5 = leaving at level 3*a* vs. continuation to level 3*b*

O: a set of dummy variables based on the following categories:

- 1 = service class I; 2 = service class II; 3 = routine non-manual (III); 4 = petty bourgeoisie (IV*a*, IV*b*); 5 = skilled workers (V/VI); 6 = unskilled workers (VII*a*); 7 = farmers (IV*c*); 8 = farm workers (VII*b*)

TO': If *T* > 2, the following parameter constraints are added for *O*:

$$V/VI = VIIa \text{ and } IVc = VIIb$$

V: 3 dummy variables (VPD, VPD⁺, VND) coded 1 for those cells of the origin by transition by nation table that are assumed to show positive (VPD), strong positive (VPD⁺) or negative (VND) deviations from the cross-national average.

successfully makes the next transition or drops out of school. The analysis is done with a data-set in which all nations and transitions are pooled. In order to give each nation the same weight, the sample size of the data for each nation has been standardized to the average sample size of all nations. Nation (*N*) and type of transition (*T*) are coded as dummy variables and included with a set of dummy variables indexing social origin (*O*) as independent variables in the analysis.

Using this data-set several models are devised in order to measure on the one hand the effects of the global survival pattern and its variation across nations, and on the other the effects of class origins and the variation of the class effects both across transitions and across nations.

Measures of the extent to which these models

fit the data from the nine nations are given in Table 4. The baseline is model 1. It assumes that in all nations and for all origin classes the rate of success in each of the transitions is identical. As can be expected this model returns a large degree of deviations between the observed transitions and those expected under the assumptions of the model. In the remaining models in Table 4 we test the improvement of fit if we let success-rates vary. Only relatively small amounts of deviance can be explained by models 2 and 3, in which we assume that the success-rates vary across the types of transitions or across nations. The same is true if we consider—as we do in model 4—the effects of nation and type of transition combined additively. But the L² value strongly declines in model 5, where we let type of transition interact

with nation, that is if we assume that the pattern of survival at the various types of transitions varies across nations. The interaction *TN* thus takes into account the different survival opportunities that are characteristic of the educational systems in the various countries and that are documented in the survival plots in Figure 2 above. Under this assumption almost half of the L^2 value of the grand mean model can be explained. As model 6 shows, however, origin in different social classes affects the survival chances almost as strongly as do the differences in schooling opportunities that exist in the nations under study and that are accounted for by the *TN* interaction in model 5.

The next model of particular interest is model 7. It combines the effects of origin class (*O*) and of the nation-specific survival pattern (*TN*). Only 13 per cent of the deviance of the baseline model remains unexplained. The fact that L^2 in model 7 that combines the elements considered separately in model 5 and in model 6 is that small indicates that the respective factors affect the transition rates largely independently of each other. As model 5 explains 49 per cent of the deviance and model 6 explains 42 per cent, the factors of these two models combined would explain 91 per cent if they were completely independent. The actual result for model 7 (87 per cent) is very close to this figure. The existence of largely independent effects has important theoretical repercussions. It implies that the variation in the global survival pattern among nations results from factors which are only very weakly linked to the differences in the structure of social origin that also exist in the various countries. The differences in the survival pattern that we observe for our nations result from factors independent of the class composition of the parental generation. The fact of largely independent effects is crucial because it supports the interpretation of the cross-national differences in the survival pattern as a consequence of different opportunities provided by the various educational systems. The national differences in the survival pattern are not a mere result of differences in demand for education following from different class compositions in the parental generation.

Model 7 allows the global survival pattern to

vary across nations, but it assumes effects of origin to be constant over all types of transitions and in all nations. According to our initial hypothesis, effects of social origin should be different at different transition points. That hypothesis is tested in model 8 by including the term *TO*. The L^2 value again drops substantially and significantly (using 28 degrees of freedom the decline in the L^2 value is 2,125). The model does not fit the data, according to conventional statistical criteria, but it leaves only a very small amount of the L^2 value of the baseline model (5.5 per cent) unexplained. Considering the large number of cases investigated in the analysis, one is very much tempted to accept this model as providing a sufficient fit to the data. And yet it is extremely simple: it assumes that the global survival patterns vary across nations and that survival rates, in addition, are affected by social origin in a way that varies over transitions, but is constant over all nations.

Table 4, however, presents the results of three additional models that are intended to improve the statistical fit as well as testing the significance of more specific hypotheses. Model 9 adds the assumption that origin effects differ among nations; according to statistical criteria they certainly do. Using 56 degrees of freedom, the reduction in L^2 is 608 and highly significant. This model still does not fit, but the proportion of deviance not explained is very small indeed. However, an interpretation of the 56 additional parameters of this model—for each nation and each origin class the model estimates a specific parameter—would not only be extremely tedious, but also impossible to achieve on good theoretical grounds. Two simplifications have therefore been devised, which are given in models 10 and 11.

In the previously discussed models eight social classes have been distinguished. But from the parameter estimates of models 8 and 9 (not shown here), it can be seen that for transitions T_3 , T_4 , and T_5 , several classes did not differ from each other in their effect on survival chances. This result is consistent with the hypothesis that in progressions at higher levels of the educational system, class differences become weaker or disappear. The classes that

were similar to each other at these transitions are the class of farmers and agricultural workers on the one hand, and the classes of skilled and non-skilled workers on the other. Model 10 imposes these respective constraints on the origin effects for transitions T_3 , T_4 , and T_5 . Compared to model 8, six degrees of freedom are gained while L^2 increases by 14.4 points. This is just at the edge of conventional statistical significance, but considering the large sample size, the parsimony of the model should be preferred to a minuscule improvement in statistical fit. For all further considerations, we therefore impose the restrictions defined by model 10 that in the transitions T_3 , T_4 , and T_5 farmers' sons do not differ from farm labourers', and unskilled workers' sons do not differ from skilled workers' sons.

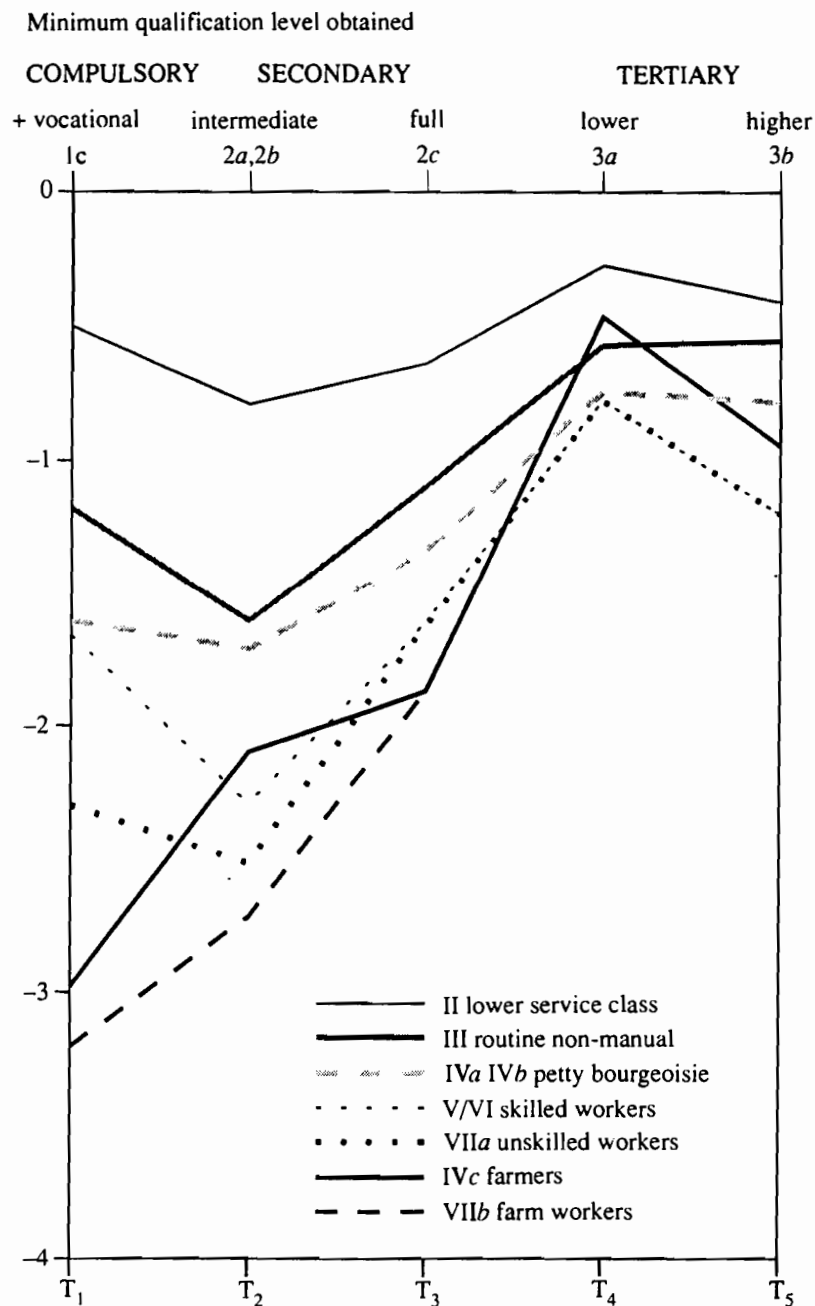
The second elaboration of model 8 concerns the variation in origin-effects across nations. As model 9 indicates, there is significant variation, although it appears to be small if contrasted to the huge origin effect that is common to all nations. Model 11 tries to capture the main features of this variation through a procedure that was guided both by external knowledge and theoretical expectations as well as by inspecting the residuals from model 10. Those combinations of origin, nation, and type of transition in which the residuals have been peculiarly high, and where plausible hypotheses could be formulated, have been indexed by one of three dummy variables that indicate the level of positive or negative deviation from the cross-national average for a specific origin-class at a specific transition in a specific nation. Model 11 controls for the cross-national variation in social-origin effects as defined by these dummy variables (for details see below). Compared to its value in model 10, L^2 decreases by almost half, and yet only 3 degrees of freedom are used. We are therefore inclined to prefer model 11 as our final model.

Before moving on we can draw several general conclusions at this point. According to the findings as they evolved from the successive models in Table 4, the educational transitions in the nine nations are mainly determined by two sets of effects: first, by the general survival pattern as institutionalized in the national

educational systems; these global survival patterns vary considerably over nations. Secondly, the educational transitions depend strongly on origin class. These class effects vary over transitions, but they are very similar in all nations, although a small amount of cross-national variation has to be acknowledged. Given this set of findings, we can also conclude that the considerable cross-national differences in the distribution of educational credentials to members of different social classes that we have found in Figure 1 above are mainly produced by differences in the global survival pattern that is institutionalized in the educational systems of the nations and not by variation in origin effects in different countries.

In what follows we focus on the estimates for the effects of origin class as they result from model 11.⁶ Those that are constant over nations are depicted in Figure 3: their national variations will be discussed later. For each transition, Figure 3 shows how much worse the odds of continuing are for children of the classes indicated by the various lines than for the children of the upper service class, which is taken as the reference and symbolized in the figure by the top horizontal line. The further from that reference-line a line for a given class is, the higher is the probability that its children will drop out at the various transition points.

A number of aspects of these results are interesting: let us discuss them in turn. From the literature on the economic, social, and cultural barriers that different classes face in seeking education, we would expect a pattern of class differentials in which the lower service class and then the routine non-manual class are closest to the upper service class. At a greater distance we would expect the skilled and then the unskilled working class. The greatest distance from the service classes would be expected for the offspring of farm workers; for the children of farmers and of the non-agricultural petty bourgeoisie we would assume an intermediate position corresponding to their intermediate position in terms of socio-economic status. From earlier research one might also expect that origin has larger effects in earlier transitions than in transitions later in the educational career.



^a The lines indicate the differences of the transition rates of the classes shown to those of class I

FIGURE 3 *Parameter estimates for effects of class of origin on educational transitions in nine European nations according to preferred model 11^a*

In a broad sense the findings correspond to these expectations. With some exceptions which will be discussed later, Figure 3 roughly reveals the expected ordering of classes. The class differences in transition rates are highest at the very first transition which leads beyond the level of compulsory schooling. At later transitions the class differentials generally become smaller. In

particular the differences between the skilled and the unskilled working class and between farmers and farm labourers that exist in the first two transitions disappear altogether in the three top transitions.

However, we find no point at which class of social origin becomes completely irrelevant.⁷ And furthermore, the data given here do not

indicate the simple linear pattern that we would expect if the class categories and educational levels represented unidimensional vertical hierarchies. The effects of origin do not continually become smaller as we move from progression to progression, nor are the classes always located in the same order. As we follow the sequence of transitions we find two inflections in the pattern of curves and we see that the agricultural classes change their position in the ordering of classes. These irregularities in the pattern are of quite substantial interest, in particular since we find the pattern to be common for all the countries studied. In attempting to understand it we propose to consider the interest that the offspring of different classes (in particular of the petty bourgeoisie and the agricultural classes) should have in different levels of education and the 'costs' of these different levels for the students.

At all transitions the petty bourgeoisie is located below the routine non-manual class. From the generally better economic conditions of the petty bourgeoisie one would rather expect the contrary.⁸ However, we have to acknowledge that for the petty bourgeoisie the intergenerational transmission of class advantages is not primarily related to education but to the direct inheritance of ownership (Yamaguchi, 1983; Logan, 1983; Müller *et al.*, 1988). The relatively low level of educational transitions found for the offspring of the petty bourgeoisie is thus consistent with expectations to be derived from a class theory that considers the particular conditions of the reproduction of class advantages among the owning classes.

With similar considerations we can understand the peculiar pattern found for the class of farmers. It is only in the very first transition—the point in life at which it is decided whether a child receives just the social minimum of education or becomes involved in a programme of vocationally oriented training—that we find clearly higher drop-out risks for the sons of both farm classes than for the offspring of any other class. In later transitions the position of the farm classes ostensibly changes. The farmers' and farm-workers' sons who survive through full secondary education have better odds of successful transitions to one

of the tertiary degrees than offspring of the working classes. At the transition to lower tertiary degrees, they have a chance of success second only to the offspring of the lower service class. This peculiar pattern for farmers' offspring can hardly be explained if we assume that origin effects chiefly result from gradual differences in the socio-economic or cultural resources of the various social classes. Under such assumptions the ordering of classes should be the same in all transitions. The peculiar reversal in the location of the farm classes, however, becomes understandable if we consider in more detail two basic options children of farmers have for their occupational future.

In status-attainment studies (Sewell and Hauser, 1975; Sewell *et al.*, 1976; Jencks *et al.*, 1983) educational attainment is regularly found to depend on occupational plans and aspirations. In the case of farmers, however, occupational plans should lead to rather different educational choices depending on whether plans are directed to staying on the farm or to leaving agriculture. In the historical period to which our data refer, farmers' sons who intended to follow in their fathers' footsteps could scarcely gain anything from continued schooling. As long as the knowledge needed for farming is mainly transmitted from generation to generation by doing farm work, schooling and educational credentials will not be valued as a crucial resource for improving occupational prospects. This is particularly true when the institutions of vocational education mainly offer programmes for non-agricultural occupations. For farmers' and farm labourers' sons who see their occupational future in agriculture, then, it appears rational to leave the school system at the end of compulsory schooling. For becoming a farmer it is not education that counts but the opportunity to inherit a farm and to invest in these prospects through early experience and—often unpaid—family labour. Education will appear instrumental mainly to those who intend to leave agriculture. At more advanced levels of education, that sub-group of farmers' sons will become larger and larger, and non-agricultural occupational plans will prevail more and more. In other words, the peculiar non-linear pattern in the odds of farmers' children—

relative to those of other classes—succeeding in the different educational transitions is interpreted as resulting from the specific 'non-educational alternative' that is available for the occupational future to at least a fraction of the farm class.

The second interesting property of the shape of the curves in Figure 3 concerns the inflections that we find in various lines. The first inflection results from the fact that—except for the agricultural classes—social origin effects appear to be stronger at transition T_2 than at transition T_1 . The effects of origin class on surviving at least up through an intermediate degree (*2a, 2b*) appear to be larger than those affecting the chances of entering into basic vocational training following the end of compulsory schooling (*1c*). This finding is plausible, since it is a fairly general pattern in all countries that the attainment of an intermediate degree is clearly a more demanding step than opting for vocational training after compulsory education. The attainment of an intermediate degree generally implies the transition into a selective school even before the end of compulsory schooling. Such a transition implies a compelling commitment to more demanding education. Access to vocational training can be obtained via less selective channels.⁹ The inflection at transition T_2 is thus consistent with the institutionalized barriers in the educational system.

A similar inflection of the curves occurs between the last two transitions shown in Figure 3. A plausible account of this 'irregularity' can be found similarly in the differences in the requirements for a lower tertiary degree as opposed to a higher one. For the cohorts studied here, higher tertiary degrees could be attained almost exclusively by following the most selective academic curriculum, which implied passing the maturity examination or obtaining an equivalent certificate at the end of secondary education. Lower tertiary degrees, on the other hand, could partly be acquired from tertiary educational institutions accessible through alternative routes that did not require the maturity examination and that did not presuppose attendance at schools like the grammar school, the *gymnasium*, or the *lycée*. The

institutions granting lower tertiary degrees could partly be entered by less demanding ways of upgrading intermediate secondary education, and were sometimes accessible—as in the case of teacher training colleges—immediately after the completion of an intermediate secondary degree. It is therefore plausible that class of origin matters more in the transition into higher tertiary degrees than in the transition to the lower, less demanding level.

In conclusion, on very general grounds, the data support the hypothesis that social selectivity is highest in the transitions at the lowest levels of the educational system and then decreases as a cohort moves up through the system. However, there are exceptions to this rule. In the European nations studied here, we do not find a neat picture according to which class effects increasingly decline as we move to higher levels of education. Furthermore, we do not find a stable order concerning the location of classes with respect to their transition probabilities. The deviations from a simple linear pattern are connected with identifiable institutional barriers in the educational system. And, particularly as the case of the farmers and of the petty bourgeoisie show, we have to take into account the differing instrumental role education plays in the intergenerational transmission of advantage in different classes.

NATIONAL VARIATION IN EDUCATIONAL TRANSITIONS

As we have noted from Table 4, origin class affects the transition pattern in very much the same way in all of the nations studied. Cross-national variation in the effects of origin class accounts for only a small proportion of the total variation in the transition pattern. But since the ever-present conditions of social selectivity lead one to expect a large degree of similarity, even small deviations from that structure are of interest, particularly if the deviations can be linked in a meaningful way to specific conditions that may explain them. In this section we will therefore discuss the findings that indicate cross-national variation.

The cross-national variations in class effects on educational transitions have been accounted

TABLE 5 National variation in educational transitions in nine European nations

	strong positive deviation VPD+	positive deviation VPD	negative deviation VND
estimate	.744	.322	-.327
s.e.	(.094)	(.024)	(.021)
Classes			
I		FRG HUN SWE	eng
II		HUN POL	
III			
IVa, IVb	SCO		hun swe
IVc	ENG	FRA IRL NIR	frg hun pol
V/VI		HUN POL	eng nir
VIIa		FRA POL SWE	frg irl nir
VIIb			

for by the inclusion of three dummy variables in model 11 of Table 4. Variation with positive deviation (VPD) means that in a given nation the transition rate for a particular class is closer (or much closer, in the case of VPD+) to the transition rate of the upper service class than the transition rate for that specific class is in the average of the countries. VND indicates deviation in the negative direction: the transition rate for a particular class differs more from the upper service class in a given nation than it does in the average of all nations.

As can be seen from the top panel of Table 5, the estimates for VPD and VDP+ are .322 and .744. The estimate for VND is -.327. Thus the effects for VPD and VND are relatively small. They involve only minor shifts in the relative position of the classes involved.¹⁰ A change in the rank order of the position of a

class for which the effect applies can occur only if two classes are relatively close to each other anyhow. In the case of VPD+ (the stronger variant of positive deviation) the effect is quite substantial. It indicates that in a given country a class may differ quite considerably from the position of that class in the average of the countries. However, this effect only occurs in two cases that do not invalidate the general conclusions drawn on the grounds of the findings in Figure 3.

Table 5 also shows in a summary way for each class the names of the countries for which dummy variables indicating deviations of the class effects from the average pattern have been included in the final model (a more detailed account is given in Table A1 in the appendix).¹¹ For instance, we can see from the table that the above-mentioned two instances of strong positive deviations relate to the petty bourgeoisie in Scotland and to the class of farmers in England. As is evident from the names of countries contained in Table 5, the deviations are not concentrated to a small number of atypical countries. Rather most of the nations deviate in a particular idiosyncratic instance from the cross-national average.¹² Most of these deviations are consistent with theoretical expectations and can be linked systematically with other knowledge we have about the societies compared.

A first set of deviations that can be expected from external knowledge concerns the upper service class. For this class we find a negative deviation in England, but positive deviations in Germany, Hungary, and Sweden. This finding fits with a number of historians' observations made particularly in comparative research on the *Bildungsbürgertum*. The *Bildungsbürgertum* is a status group, mainly composed of civil servants, professionals, and teachers in higher education, which forms a major fraction of the upper service class. This group shares higher education, common social values derived from it, and a high propensity to convey the goods of education to its offspring. The *Bildungsbürgertum* was probably distinguished most clearly as a status group in Germany, but it also existed in neighbouring countries that were influenced by the German traditions of higher

education, such as Sweden or the Austro-Hungarian empire (Conze and Kocka, 1985; Torstendahl, 1985; Kocka, 1989; Andorka, 1988; Róbert, 1991).¹³ The same body of literature shows that English society was rather distinctive in not having such a broad and educationally defined upper class. In England it was not primarily certified higher education that provided social recognition or that was an all-important credential in getting access to distinguished occupational positions (Fisher and Lundgreen, 1975; Müller, 1990). The positive deviations for Germany, Hungary, and Sweden, as well as the negative deviation for England, fit well with these observations.

Another set of deviations that forms a consistent pattern concerns Hungary and Poland. In both countries the communist governments implemented a set of political measures that were intended to enhance the educational opportunities of the less-advantaged wage-earning classes and to impede the opportunities of the property-owning classes (for Hungary see Simkus and Andorka, 1982; for Poland see Meyer *et al.*, 1979). For Poland and Hungary one would therefore expect the wage-earning classes to show positive deviations and the self-employed classes to show negative deviations. Now, according to Table 5, we do indeed find positive deviations for class II, classes V/VI, and class VIIa (the latter only in Poland), but negative deviations for the class of farmers and the petty bourgeoisie (the latter only in Hungary).¹⁴ To a large extent the data are thus consistent with expectations that can be derived from the class-linked educational policies of the communist regimes in these countries.

Outside Poland and Hungary, an egalitarian policy has been followed most consistently in Sweden (Jonsson, 1987). And it is there that we find similar deviations from the cross-national average as in Hungary and Poland. Sons of families of the petty bourgeoisie have lower than average transition opportunities, and the opportunities of the sons of unskilled workers are better than the average for all the nations.

For Germany and France we find a pattern of class-specific deviation that to some extent counterbalances the effects of the general

survival pattern. In Germany, as we have shown, the global survival rates in the first and second transition are by far the highest of all the countries. Large proportions of a cohort survive at those selection points for which the social selectivity (in the average of the nations) is strongest. In France, on the contrary, the school system allows only a tiny minority of the population to acquire educational credentials beyond compulsory schooling. These differences in the global survival rates between Germany and France are counterbalanced by peculiar class effects on educational transitions in the following way: in Germany the negative class factors for the educationally most disadvantaged social classes (i.e. the farmers and unskilled workers) appear to be stronger than for the average of the countries, while in France the distance in the transition rates of farmers and unskilled workers sons from those of the service class is smaller than for the cross-national average. The peculiarly limited opportunities of children from the unskilled working class in Germany are well documented in many studies of the German class structure and fit into a pattern that one expects from earlier research (Müller, 1975; Mayer, 1979; Handl, 1989; Müller, 1986; Erikson and Goldthorpe, 1987b). For Germany, then, the beneficial effects of the global survival pattern are somewhat reduced by a stronger than average social selectivity in precisely those transitions in which selectivity is high, whereas in France the effects of the unfavourable global survival regime is mitigated by a somewhat reduced social selectivity (for corresponding findings from detailed German-French comparisons see König, 1990; for France see Garnier and Hout, 1981).

Other positive deviations from the average pattern are found for the class of farmers in England and both Northern Ireland and the Irish Republic. For the class of farmers in England we even have to allow a strong positive deviation (VPD⁺) in order to obtain an acceptable fit. The distinct social position of the class of farmers in England is well known, and it would have been surprising if we had not found a pronounced positive deviation for this class in the present analysis. The positive deviations that we also find for the class of

farmers in the Republic of Ireland are consistent with the dualistic structure of farming in Ireland. The large farmers and capitalist agricultural entrepreneurs that form a specific segment of the agricultural classes in Ireland can be expected to show a similar pattern of educational participation as the farmers in England (see Jackson, 1971; Peillon, 1982; Erikson and Goldthorpe, 1987*b*). However, it appears to be more difficult to find explanations from available external evidence for the better than average educational prospects of farmers' children in Northern Ireland.

A further instance for which no strong external evidence could be found concerns the position of the working classes in England, Northern Ireland and the Republic of Ireland. For England the term VND—indicating negative deviation—has to be included for the skilled working class. Since the unskilled working class does not differ in England from the cross-national average, the negative deviation for skilled workers means that the educational opportunities of sons from the skilled and unskilled working classes are less distinct from each other in England than the average across all the countries. (In spite of this fact the total range of class differentials is still smaller in England than in the cross-national average, since, as indicated above, the English upper service class is less distinct from all other classes than in the cross-national average.) In contrast to England, in Northern Ireland the educational opportunities of children of both working classes are below the cross-national average, while in the Republic of Ireland this is found only for the unskilled workers' children. Thus in Northern Ireland both the working classes and in the Republic of Ireland the unskilled fraction of it appear to be subject to a stronger class bias in educational selection than is the case for the average of the countries.

Finally, the offspring of the petty bourgeoisie have much better survival opportunities in the Scottish educational system than in any of the other countries. Indeed it is the second instance of a strong positive deviation (VPD+). We were unable to find a convincing explanation for this finding in previous work on educational attainment in Scotland. A closer analysis for the

Scottish petty bourgeoisie, however, showed that in the data used for Scotland the petty bourgeoisie includes a considerably higher proportion of employers and a smaller number of self-employed/workers than the petty bourgeoisie in other nations. Thus, in the data used the Scottish petty bourgeoisie has a more advantageous composition than the petty bourgeoisie in other nations. We think that the clearly better than average educational prospects of the offspring of the Scottish petty bourgeoisie is most simply explained by this compositional difference.

Although the explanations proposed for some of the deviations are tentative—since no strong external evidence could be found—we fear that not considering these deviations that manifest themselves this clearly in the data would overstress uniformity.

SUMMARY AND CONCLUSIONS

This paper has studied similarities and differences in the educational selection processes in several European nations. The findings provide clear evidence that in these countries education is distributed in different ways and with different results to the social classes. The share of education and educational credentials that the offspring of different social classes receive varies considerably between countries.

Most of these differences in the varying distribution of education to social classes are produced through the interplay of two elements in the selection processes that occur in educational institutions. First, the general survival pattern that exists at a given time and place in the educational institutions, and secondly, the class-specific survival rates and their variation across transitions and nations. While the class effects on survival show a large degree of commonality in all countries, the global survival pattern varies quite extensively. It varies most among countries at precisely those transitions in which survival is most affected by the social origin of students, that is, in the early transitions. For the cohorts studied, the considerable cross-national variation in the unequal distribution of education to the various social classes thus results chiefly from the

cross-national variation in the global opportunities to attain the various levels of education and less from national differences in the class effects on given educational progressions. The factor that crucially induces variation among nations is the differences in the supply of education in the different national educational systems and in the channelling of the student population through the different educational institutions and transitions.

As for the similarities and differences of the class effects among nations, we should stress the large degree of commonality. No country differs fundamentally from the basic pattern of class-related advantage and disadvantage as it is shown in Figure 3. Indeed, of all the class effects that can be accounted for in our models 94 per cent are due to commonality among nations and only 6 per cent to variation between nations. In all countries the class effects tend to be smaller in later transitions than in earlier ones, and all nations show basically the same order in the location of the various classes in the space of higher or lower rates of transition at the various progressions. The similarity among nations also includes the 'irregularities' in the lines that were found in Figure 3: the inflections and the changing location of farmers. We assume that the underlying factors that are responsible for this common pattern of class effects are basically the same in all countries as well. The inflections in the pattern of class effects can be plausibly linked with the costs and institutional barriers that exist for different levels of education. In trying to understand the relative position of the various classes in the space of higher or lower transition chances at the various progressions, the adoption of a class perspective appears to be very revealing. In particular, in order to understand the location of the petty bourgeoisie and of farmers, it seems indispensable to take into account—besides the cultural and socio-economic resources available in these classes—the specific mechanisms of direct intergenerational transmission of advantage in these classes and the limited instrumental role that education plays in this process.

However, although such a common basic pattern can be discerned and meaningfully interpreted, there is also evidence that single

nations deviate in specific ways from it. Commonality does not mean complete identity. The assumption that commonality exists in spite of observed deviations is supported by the fact that the variation does not result from one or a few countries that strongly deviate from another set of countries. Rather, most of the countries deviate in a specific and limited way from the cross-national average and the cross-national variation mainly entails *minor* differences from the basic pattern of the class-related differentials in transition rates. Most of these deviations can be interpreted sensibly in the light of existing external evidence. The findings generally indicate the relevance of factors that result from specific historical, political, or institutional peculiarities existing in some of the nations but not in others. Examples are the educational orientation of the *Bildungsbürgertum* in Germany and in some other countries in which this stratum achieved a prominent position, the particular class position of farmers in England, or the class-linked educational policies in Hungary and Poland. We should also underline that the conditions that we assume to produce the cross-national variation are heterogeneous, and factors operating in different directions may overlap. In Hungary and Sweden, for instance, an above-average tendency to transmit higher education to the next generation in the highly educated upper service class is combined with effects consistent with the egalitarian policies pursued in these countries for the enhancement of the educational prospects of children of the lower classes.

Thus, concerning the more general questions that we raised at the beginning of this paper, the findings of the analysis would not seem to evoke explanations in terms of general properties such as the level of industrial or economic development. It would appear to be a difficult task to derive from such conditions the considerable differences in the supply of education and in the channelling of the student populations through the educational system as they exist for instance between England, France, and Germany, such conditions were found to be the major factor in producing the cross-national differences in the distribution of

education to the various social classes. In the same vein, the differences among nations in the class effects on educational transitions hardly appear compatible with general macro-sociological differences of these nations. Rather, the findings are in line with the explanatory strategy advanced in the contributions by Erikson and Goldthorpe (1987b; 1992); that is a strategy that elaborates on institutional, political, and other incentives and constraints that have evolved historically in specific nations and affect the behaviour of individual actors.

NOTES

1. Among the eight coefficients estimated in the crucial equations (3), (7), and (8) in the analysis by Treiman and Yip, only one coefficient is significant according to standard statistical criteria. It is the coefficient indicating that the variance explained in educational attainment in different countries depends positively on the degree of inequality in the distribution of education in the father's generation. Excluding India from the analysis, the size of this coefficient strongly decreases and it becomes statistically insignificant. Excluding India from the analysis also produces a change in sign of the coefficient estimating the effect of educational inequality in equation (8). Contrary to the assumptions of Treiman and Yip, the results without India then indicate that the coefficient relating father's occupational status to respondent's occupational status *decreases* as educational inequality in the father's generation *increases*.
2. These considerations led us to develop an educational scale with two crucial classification criteria: 1) the differentiation of a hierarchy of educational levels, based both on the length of educational experience and on the generally acknowledged value of the educational track and of the certificate obtained; 2) the differentiation between 'general' and 'vocationally oriented' education (for details, see König *et al.*, 1988).
3. This fact is congenial to the multi-track structure of the European school systems. Not only is there a multiplicity of parallel tracks, but alternative routes may lead to the same final outcome. It is not, therefore, the aim of this paper to model the educational decisions the students may actually have faced in their educational careers.
4. Beyond the point of intermediate secondary certificates, the school system generally provides various tracks to higher education. One typically leads through advanced secondary schools (grammar school, *gymnasium*, *lycée*) to a full secondary education (with certificates like *Abitur*, A-level exam, or *Baccalauréat*). From there, a successful educational career then leads into the various programmes at the institutions of higher tertiary education. In several countries a number of opportunities exist to bypass the classical institutions of higher secondary education and to enter by alternative routes into institutions of lower tertiary degrees (such as teacher training colleges, schools for advanced technical training, schools of social work, and others).
5. However, as data that cannot be presented here show, the pattern of declining class proportions varies for different classes. The farmers' sons, for instance, experience a sharp loss immediately at the end (or even before the end) of compulsory education, whereas the shrinking of the proportion of workers takes place at later transitions. Workers' sons tend to stay one stage longer in the educational system than farmers' sons: they take up vocational training following the end of compulsory schooling, but only a few of them enter into advanced tracks of secondary education or continue to advanced courses of vocational training.
6. The variation in the global survival pattern has been documented in Figure 2.
7. As systematic statistical tests that cannot be reported here show, most of the classes differ significantly from each other even at transitions T_4 and T_5 . At transition T_4 only the agricultural classes do not differ significantly from classes II and III, and only the petty bourgeoisie does not differ significantly from classes III and V/VI. At transition T_5 class III does not differ significantly from classes II and IVa and IVb, and the agricultural classes do not differ significantly from the working classes.
8. See e.g. the figures in Table 2.2 of Erikson and Goldthorpe (1992: 45) indicating that with respect to measures of socio-economic status or prestige the petty bourgeoisie generally shows scores that are higher than those of class III.
9. As a rule, those who later obtain basic vocational training first follow the educational route designed for those who do not succeed in admission to advanced educational institutions or who have no intention of obtaining more education than the legal minimum. Once this is obtained one enters an institution of vocational training into which access is generally less selective than it is to the more academically oriented tracks of secondary education.
10. The metric of these effects is the same as of those displayed in Figure 3. In the metric of this figure the size of VPD and VND corresponds approximately to the distance of the line of the lower service class from the top horizontal line in transition 3a.
11. To simplify the presentation we do not enter into the details of the deviations that were specified for each single nation. These specifications are given in Table A1 of the appendix. Table 5 does not specify in which transition the deviation occurred. In addition, Table 5 does not include those cases in which a positive deviation (for a specific class) in an early transition is compensated by a negative deviation (for the same class) in a later transition or vice versa.
12. It could be argued that this indicates that the deviations

are merely due to errors or inconsistencies in the data, for instance in the coding of class or education, or to incomparabilities in the educational systems. Although all of this, of course, is always possible to some extent, we are not aware of particular instances in which this would be a plausible interpretation in the present case.

13. An indication of the significance of a social group identified by higher education is the term *Akademiker* in the German-speaking countries; comparable terms are found in Sweden and Hungary, but not in Poland, England, or France.
14. The negative deviation for the class of farmers in Hungary and Poland may also be due to the fact that in both these countries schools were extremely scarce in rural areas at the time when most of the cohorts included in our data were of school age. Lack of availability of schools should not be considered the only cause, however, because in this case we should also expect negative deviations for the children of agricultural workers, but there is no indication of this in the data.

ACKNOWLEDGEMENTS

This paper was partly prepared while Walter Müller was a Fellow at the Center for Advanced Study in the Behavioral Sciences, Stanford. He gratefully acknowledges financial support provided by the National Science Foundation, grant BNS87-00864, the Spencer Foundation, and the Stiftung Volkswagenwerk for the grant given to the CASMIN-project. An earlier version of the paper was presented by Walter Müller at the Department of Sociology, Duke University, and he wishes to thank those present for a stimulating discussion.

REFERENCES

- Allmendinger J. (1989): *Career Mobility Dynamics. A Comparative Analysis of the United States, Norway, and West Germany*, Studien und Berichte, 49, Berlin: Max-Planck-Institut für Bildungsforschung.
- Andorka R. (1988): *Comments Concerning the Results on Hungary of the CASMIN Project of International Comparison of Social Mobility*. Conference on the CASMIN Project and Comparative Sociology, Schloss Reisenburg, Germany.
- Archer M S. (1979): *Social Origins of Educational Systems*. London: Sage.
- (1989): 'Cross-National Research and the Analysis of Educational Systems' in Kohn M L. (ed.) *Cross-National Research in Sociology*, Newbury Park: Sage: 242-62.
- Atkinson A B. (1991) *Poverty, Statistics, and Progress in Europe*. Discussion Paper WSP/60. London: London School of Economics.
- Blau P M, Duncan O D. (1967): *The American Occupational Structure*, New York: Wiley.
- Blossfeld H P, Shavit Y. (forthcoming): 'Persisting Barriers: Changes in Educational Opportunities in Thirteen Countries' in Shavit Y, Blossfeld H P. (eds.) *Persistent Inequality: Changing Educational Stratification in Thirteen Countries*, Boulder, Colo.: Westview Press.
- Cobalti A. (1990): 'Schooling Inequalities in Italy: Trends over Time', *European Sociological Review*, 6: 199-214.
- Coleman JS, et al. (1966): *Equality of Educational Opportunity*, US. Department of Education, Washington, DC: USGPO.
- Hoffert T. (1987): *Public and Private High Schools*, New York: Basic Books.
- Conze W, Kocka J. (1985): 'Einleitung' in Conze W, Kocka J. (eds.), *Bildungsbürgertum im 19. Jahrhundert. Teil I: Bildungssystem und Professionalisierung im internationalen Vergleich*. Stuttgart: Klett-Cotta: 9-28.
- Erikson R, Goldthorpe J H. (1987a): 'Commonality and Variation in Social Fluidity in Industrial Nations. Part I: A Model for Evaluating the "FJH-hypothesis"', *European Sociological Review*, 3: 54-77.
- (1987b): 'Commonality and Variation in Social Fluidity in Industrial Nations. Part II: The Model of Core Social Fluidity Applied', *European Sociological Review*, 3: 145-66.
- (1992): *The Constant Flux. A Study of Class Mobility in Industrial Societies*, Oxford: Clarendon Press.
- Fischer W, Lundgreen P. (1975): 'The Recruitment and Training of Administrative and Technical Personnel' in Tilly C. (ed.), *The Formation of National States in Western Europe*, Princeton: Princeton University Press: 456-561.
- Garnier M A, Hout M. (1981): 'Schooling Processes and Educational Outcomes in France', *Quality and Quantity*, 15: 151-77.
- Hallinan M T. (1988): 'Equality of Educational Opportunity', *Annual Review of Sociology*, 14: 249-68.
- Handl J. (1989): *Berufschancen und Heiratsmuster von Frauen*, Frankfurt: Campus.
- Heath A. (undated): *Towards Meritocracy, Recent Evidence on an Old Problem*, Oxford: Nuffield College.
- Hout M. (1989): *Following in Father's Footsteps*, Cambridge, Mass.: Harvard University Press.
- Jackson J A. (1971): 'Ireland' in Archer M, Giner S. (eds.), *Contemporary Europe: Class, Status and Power*, London: Weidenfeld and Nicolson.
- Jencks C. (1985): 'How much do High School Students Learn?' *Sociology of Education*, 58: 128-35.
- Crouse J, Müser P. (1983): 'The Wisconsin Model of Status Attainment: A National Replication with Improved Measures of Ability and Aspiration', *Sociology of Education*, 56: 3-19.
- Jonsson J O. (1987): 'Class Origin, Cultural Origin, and Educational Attainment: The Case of Sweden', *European Sociological Review*, 3: 229-42.
- Kerckhoff A C. (1989): 'Creating Inequality in the Schools: A Structural Perspective', paper presented at the annual meeting of the American Sociological Association, San Francisco.
- Kocka J. (1989): 'Bildungsbürgertum—Gesellschaftliche Formation oder Historikerkonstrukt', in Kocka J. (ed.)

- Bildungsbürgertum im 19. Jahrhundert. Teil IV: Politischer Einfluß und gesellschaftliche Formation*, Stuttgart: Klett-Cotta: 9-20.
- König W. (1990): *Berufliche Mobilität in Frankreich und in der Bundesrepublik*, Frankfurt: Campus.
- Müller W. (1986): 'Educational Systems and Labour Markets as Determinants of Worklife Mobility in France and West-Germany: A Comparison of Men's Career Mobility, 1965-1970', *European Sociological Review*, 2: 73-96.
- Lüttinger P, Müller W. (1988): *Comparative Analysis of the Development and Structure of Educational Systems: Methodological Foundations and the Construction of a Comparative Educational Scale*, Casmin Working Paper No. 12, Mannheim: Institut für Sozialwissenschaften.
- Logan J A. (1983): 'A Multivariate Model for Mobility Tables', *American Journal of Sociology*, 89: 324-49.
- Mare R D. (1980): 'Social Background and School Continuation Decisions', *Journal of the American Statistical Association*, 75: 295-305.
- (1981): 'Change and Stability in Educational Stratification', *American Sociological Review*, 46: 73-87.
- (forthcoming): 'Educational Stratification on Observed and Unobserved components of Family Background', in Shavit Y, Blossfeld H P. (eds.), *Persistent Inequality: A Comparative Study of Educational Stratification in Fourteen Countries*, Boulder, Colo.: Westview Press.
- Mayer K U. (1979): *Fluktuation und Umschichtung*, Habilitationsschrift, Mannheim: Universität, Fakultät für Sozialwissenschaften.
- Meyer J W. (1980): 'Levels of the Educational System and Schooling Effects', in Bidwell C W, Douglas M W. (eds.), *The Analysis of Educational Productivity*, ii. *Issues in Macroanalysis*, Cambridge, Mass.: Ballinger: 15-62.
- Tuma N B, Zagorski K. (1979): 'Education and Occupational Mobility: A Comparison of Polish and American Men', *American Journal of Sociology*, 84: 978-86.
- Müller W. (1975): *Familie, Schule, Beruf. Analysen zur sozialen Mobilität und Statuszuweisung in der Bundesrepublik*, Opladen: Westdeutscher Verlag.
- (1986): 'Soziale Mobilität: Die Bundesrepublik im internationalen Vergleich', in Kaase M. (ed.), *Politische Wissenschaft und politische Ordnung*, Opladen: Westdeutscher Verlag: 339-54.
- (1990): *Does Education Matter? Evidence from Cross-national Comparisons*, Stanford: Center for Advanced Study in the Behavioral Sciences.
- König W, Lüttinger P. (1988): *Education and Class Mobility*, Casmin Working Paper No. 14, Mannheim: Institut für Sozialwissenschaften.
- et al. (1990): 'Class and Education in Industrial Nations', in Haller M. (ed.), *Class Structure in Europe*, Armonk, NY: Sharpe: 62-91.
- Peillon M. (1982): *Contemporary Irish Society*, Dublin: Gill and Macmillan.
- Ringer F K. (1979): *Education and Society in Modern Europe*, Bloomington: Indiana University Press.
- Róbert P. (1991): 'Educational Transition in Hungary from the Post-War Period to the End of the 1980s', *European Sociological Review*, 7: 213-36.
- Ryscavage P, Henle P. (1990): 'Earnings Inequality Accelerates in the 1980's', *Monthly Labor Review*, Dec.: 3-15.
- Shavit Y. (1990): 'Segregation, Tracking and the Educational Attainment of Minorities: Arabs and Oriental Jews in Israel', *American Sociological Review*, 55: 77-88.
- Blossfeld H P. (eds.), (forthcoming): *Persistent Inequality: Changing Educational Stratification in Thirteen Countries*, Boulder Colo.: Westview Press.
- Sewell W H, Hauser R M. (1975): *Education, Occupation and Earnings: Achievement in Early Career*, New York: Academic Press.
- — Featherman D L. (eds.), (1975): *Schooling and Achievement in American Society*, New York: Academic Press.
- Simkus A, Andorka R. (1982): 'Inequalities in Educational Attainment in Hungary, 1923-1973', *American Sociological Review*, 47: 740-51.
- Smith H L, Cheung P P L. (1986): 'Trends in the Effects of Family Background on Educational Attainment in the Philippines', *American Journal of Sociology*, 91: 1387-408.
- Sorensen A B, Hallinan M T. (1986): 'Effects of Ability Grouping on Growth in Academic Achievement', *American Education Research Journal*, 23: 519-42.
- Treiman D J. (1970): 'Industrialization and Social Stratification', in Laumann E O. (ed.), *Social Stratification, Research and Theory of the 1970s*, Indianapolis: Bobbs-Merrill: 207-34.
- Yip K B., (1989): 'Educational and Occupational Attainment in 21 Countries', in Kohn M L. (ed.), *Cross-National Research in Sociology*, Newbury Park: Sage: 373-94.
- Torstendahl R. (1985): 'Engineers in Sweden and Britain 1820-1914: Professionalisation and Bureaucratization in a Comparative Perspective', in Conze W, Kocka J. (eds.), *Bildungsbürgertum im 19. Jahrhundert. Teil I: Bildungssystem und Professionalisierung im internationalen Vergleich*, Stuttgart: Klett-Cotta: 543-60.
- Turner R H. (1960): 'Sponsored and Contest Mobility and the School System', *American Sociological Review*, 25: 855-67.
- Yamaguchi K. (1983): 'The Structure of Intergenerational Occupational Mobility: Generality and Specificity in Resources, Channels, and Barriers', *American Journal of Sociology*, 88: 718-45.

AUTHORS' ADDRESS

Universität Mannheim, Seminargebäude A5, 6800 Mannheim 1. Germany.

Manuscript received: March 1992

APPENDIX

TABLE A1 *National variation in educational transition rates in nine European nations*

	T ₁	T ₂	T ₃	T ₄	T ₅	Total
I	SWE ^a	FRG	FRG SWE	HUN	IRL	HUN FRG SWE eng
			irl ^b	eng	eng frg	
II	HUN POL	SCO		POL	sco	HUN POL
III						
IVa, IVb	IRL	SCO	SCO+			SCO+
			irl hun	hun swe	swe	hun swe
IVc	ENG+ ^c FRA SWE	ENG IRL NIR			NIR	ENG+ IRL NIR FRA frg hun pol
	hun pol	frg swe				
V/VI	HUN POL				SWE	HUN POL eng nir
	eng swe+		nir			
VIIa	FRA POL SCO		SWE			FRA POL SWE frg irl nir
	frg irl nir	frg	sco	irl		
VIIb						

^acapital letters indicate positive deviation (VPD)

^blower-case letters indicate negative deviation (VNP)

^cplus sign indicates strong positive deviation (VPD+)