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## Educational Opportunity in Five East European Countries

JULES L. PESCHAR AND ROEL POPPING

During the past year the developments in the state socialist countries of Eastern Europe have commanded much attention.<sup>1</sup> The economy and politics there are changing rapidly; the dismantling of the "iron curtain" has increased the possibilities of travel to other countries. Nonetheless, little systematic knowledge has been collected about the actual functioning of Eastern European societies. This is especially true of education and occupations, where for at least the last 4 decades an official policy of equity has existed, a policy closely linked to the ideological basis of these societies and whose proper evaluation in comparative perspective has proved difficult.

Much descriptive information is of course available. In statistical year-books education at various levels is documented.<sup>2</sup> Encyclopedias and handbooks reveal the *structure* of the educational systems.<sup>3</sup> Knowledge about their curricula and pedagogics have been transmitted to the West. The *outcomes* of education, however, have mainly been judged in political terms, usually not on the basis of empirical analyses. Furthermore, it is impossible to reconstruct on the basis of published material the actual flow of students and the educational and occupational levels reached by children from different social backgrounds. Thus, there is little known about the structure of educational opportunity in Eastern European countries. From the evidence heretofore unavailable, it is impossible to estimate the degree of uniformity in opportunity patterns among state socialist countries.<sup>4</sup>

Thanks are due to the two anonymous reviewers for their helpful comments on an earlier draft of this article. Jim Allen edited the final version.

<sup>1</sup> In this article, the colloquial phrase "Eastern Europe" for state socialist countries in Europe and the Soviet Union will be used, although "Central Europe" may be more appropriate.

<sup>2</sup> Unesco/International Bureau of Education, *International Yearbook of Education* (Paris: Unesco, various years).

<sup>3</sup> B. Holmes, ed., *International Handbook of Education Systems*, vol. 1, *Europe and Canada* (Chichester: Wiley, 1983); T. N. Postlewaite, ed., *The Encyclopedia of Comparative Education and National Systems of Education* (Oxford: Pergamon, 1988), which lists over 150 national educational systems.

<sup>4</sup> On the basis of reviews of comparative studies in stratification, one might conclude that the relationship between fathers' and children's education is generally stronger in Western European countries than in socialist countries. However, the data and classifications are often not sufficiently standardized to allow strong conclusions. See, e.g., A. L. Simkus, "Comparative Stratification and Mobility," in *Comparative Sociological Research in the 1960's and 1970's*, ed. J. M. Armer and R. M. Marsh (Leyden: Brill, 1982), pp. 213–36.

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This article deals with the feasibility of evaluating educational opportunity in several East European state socialist countries. We do not offer a thorough description of the educational systems, nor do we present detailed descriptive statistics.<sup>5</sup> The main issue we take up is whether it is possible to evaluate different outcomes of educational systems, in terms of opportunity, given the scarcity of available and reliable data. The proposed analyses can only be undertaken when data are complete. Unfortunately, available reports are largely uninformative, and relevant—and thus potentially threatening—information is lacking, so nothing can be evaluated.<sup>6</sup> It is a challenge to find data in which not only *percentages* are reported but also the *absolute* numbers from which researchers can construct tables suitable to their needs and use these for evaluation purposes. Our objective is to show how this can be done.<sup>7</sup>

### Educational Opportunity in Eastern Europe

In East European state socialist countries, the social functions of education are strongly emphasized. Most countries have followed the Marxist-Leninist directives of the Soviet Union. The official goals of education in the Soviet Union have been described by M. P. Kashin: "Citizens were given the right to choose their profession, occupation, and job according to their vocation, abilities, professional training, and education, and in consideration of the country's social needs." The main principle is that "education is characterized by equality and continuity between all types of educational institutions."<sup>8</sup> Until recently, other state socialist countries formulated similar goals for education. In Bulgaria, the fundamentally democratic character of education, thus the absence of social barriers, was stressed.<sup>9</sup> For Hungary, "education is considered the main channel for social mobility. It is widely argued and accepted that existing social differences should be compensated (at least partly) by schooling."<sup>10</sup>

Similar formulations are presented in a study on education and employment among youth in the state socialist countries by V. Shoubkin, K. Gospodinov, and F. Gasz6: "The most essential [feature] is the democratic character of socialist education." The "educational system is seen as the motor for societal change [and a] powerful factor in social progress."<sup>11</sup>

<sup>5</sup> An excellent source for Eastern Europe in general is P. M. Shoup, *The East European and Soviet Data Handbook: Political and Developmental Indicators, 1945-1975* (New York: Columbia University Press, 1981).

<sup>6</sup> This is, of course, not a matter peculiar to state socialist countries.

<sup>7</sup> This effort is much like the work of W. D. Connor, *Socialism, Politics and Inequality* (New York: Columbia University Press, 1979). Unfortunately, in this study no reference is made to education.

<sup>8</sup> M. P. Kashin, "Soviet Union," in Postlewaite, ed., p. 606.

<sup>9</sup> A. Fol, "Bulgaria," in *ibid.*, pp. 163-65.

<sup>10</sup> Z. Bathory, "Hungary," in *ibid.*, p. 339.

<sup>11</sup> These citations come from V. Shoubkin, K. Gosponidov, and F. Gasz6, eds., *Youth and Labour* (Sofia: Bulgarian Sociological Association, 1983), pp. 154-62.

Such was the rationale behind the massive educational reforms in Eastern Europe after the transition to state socialism at the end of the forties.

Interestingly enough, two different concepts were advanced simultaneously. On the one hand—when education is referred to as a powerful factor in social progress—reference was made to *rising educational levels* for the total population. On the other hand—and this is quite a different issue—the democratic ideal of equality assumed *the absence of social barriers* limiting the access to and attainment of education. It is relevant to note here that for both issues a *point of reference* was necessary. For the rise in educational level, this was a comparison with an earlier registration or with the parents' level. To assess the absence of social barriers, the relevant standard was the social or educational background of the parents. It should be clear that findings on rising educational levels do not necessarily address the second question of equality. In fact, for a clear assessment of the extent of equality of opportunity, one must realize that, while most children achieve a higher educational attainment than their parents, this does not say anything about changed social barriers. Such change can only be said to have taken place when children from lower social or educational backgrounds achieve improvements relative to children from higher social groups. The problem then is how to distinguish rising *absolute* levels of education from this relative improvement.

A similar problem has received attention from sociologists for many years in their study of *social mobility*. The issue here is whether the distribution of characteristics in the parents' generation has changed in the children's generation and whether some children have improved their relative position, after taking into account the general shifts that have occurred between generations. The empirical information usually consists of the cross tabulation of parents' (*vertical*) and children's (*horizontal*) occupation: the so-called mobility table.

It will be clear that, if all occupations are ranked from lower to higher positions, children who have the same positions as their parents will all be found on the *diagonal* of the table. If all children improve equally on their parents' positions, this diagonal moves upward. Only children doing much better—after taking into account the aggregate general change for all children—show a pattern of relative improvement.<sup>12</sup> In recent decades, much research has been conducted in an effort to disentangle these two components of mobility: the general shift (called *structural* mobility) versus the relative shift (called *circulation* mobility). Many statistical techniques have been developed within this framework. During the last decade the application of log-linear models has been especially successful.<sup>13</sup>

<sup>12</sup> In the mobility table, these will be found in the upper triangle, where all children have a higher level than their parents. The reverse is of course also true: in the lower triangle, all children have experienced a downward movement compared to their parents.

<sup>13</sup> For an introduction, see M. Hout, *Mobility Tables* (London: Sage, 1983).

Returning to the issue of rising educational levels versus increased educational opportunity, the analogy with social mobility is clear. On the one hand, we seek to assess the extent of the differences between parents' and children's educational levels. On the other hand, we wish to estimate the improvement of children from lower social groups relative to children from higher social groups, after accounting for the aggregate general rise in educational level of all children. The problem addressed in this article can now be *reformulated* as follows: Do children attain higher educational levels than their parents? What proportion of these differences can be distinguished as (1) an aggregate rise in educational level and (2) a relative improvement? As we focus specifically on Eastern Europe, it is relevant to test for differences among socialist countries. Clearly, an answer to the second question is needed for an assessment of educational opportunity.

#### Data and Methods of Analysis

Ideally the data for such an analysis would consist of standardized cross tabulations of parents' and children's educational attainment—so-called educational mobility tables—available for as many countries and moments in time as possible. Cross-country comparisons over time could reveal important changes in educational or social policy. As already mentioned, no such data exist as yet. As a first step toward such analysis, however, we can use data from a comparative study on *Youth and Labour* in five East European state socialist countries.<sup>14</sup> Although the original tables contain insufficient information for our analysis, we have obtained the necessary supplementary data.<sup>15</sup>

At the end of the seventies, the cooperating socialist academies of sciences commissioned a study in five East European countries: Poland, Czechoslovakia, Hungary, Bulgaria, and the Soviet Union. Some of the analyses based on this comparative study—with some 15,000 respondents aged 16–30 years—have been published in *Youth and Labour*.<sup>16</sup> The Bulgarian national sample consisted of 2,957 persons aged 16–30, working in the industrial and services sectors. The Hungarian respondents ( $N = 1,815$ ) formed a national sample in the age group 21–29 years, working in industry. In the Soviet Union, there were 2,300 respondents aged 16–30 from Kostroma (250,000 inhabitants) employed in industry and services. The Czechoslovakian national sample of economically active youngsters in the age range 18–29 consisted of 1,906 persons. The national sample from Poland—which is not reported by Shoubkin et al., but the data for which were collected for the same purpose—consisted of 2,864 persons. Because of several missing values, numbers in the tables vary

<sup>14</sup> Shoubkin et al., eds.

<sup>15</sup> We thank Dr. Péter Molnár (Budapest) for his willingness to provide the original tables.

<sup>16</sup> Detailed information on the sample is given in Shoubkin et al., eds., pp. 45–52.

slightly from those published. Regrettably, the samples did not include *all* economically active younger people, because no information is available for the agricultural sector. The way the data were collected in the five countries was similar enough to allow comparisons. In principle, this unique joint study with standard educational classifications allows for detailed and concise comparisons on the three issues discussed above.

The most relevant table, containing information on the education of parents and children, is table 35 in the Shoubkin report. It is reproduced here again as table 1.<sup>17</sup> It is quite clear from this table that dramatic changes have taken place within only one generational period. The educational level of the children's generation is much higher than that of their fathers, and even more compared to that of their mothers.<sup>18</sup> The relative share of those with secondary education increased enormously, as can be seen in table 2.

Shoubkin et al. conclude that the Soviet Union and Bulgaria score especially highly in terms of secondary education, with Hungary in the middle range. Czechoslovakia rates relatively low because the vocational training schools there do not qualify students to continue education on the next level. Thus, strong differences also appear to exist *within* socialist societies in overall levels of education. From the foregoing discussion it is clear that from these marginal distributions no conclusion can be drawn on the question of whether *opportunities* have changed.<sup>19</sup> On the basis of the cross tabulations of parents' versus children's education we shall address this question using log-linear techniques from mobility research.

First, however, the categories should be reclassified to ensure that the *same educational classes* for fathers and children apply for each country. In table 3 we transform the original codes to the standardized codes. The original and the reconstructed  $4 \times 4$  tables are given in full in the Appendix.

### The Applied Log-linear Model

In mobility research the log-linear model is frequently applied. This type of analysis is very well suited for the specified goals, especially structured analysis as proposed by Keith Hope.<sup>20</sup> It is possible to specify both the

<sup>17</sup> Shoubkin et al. did not present—for some unclear reason—findings on Poland; they were, however, collected in the same project. See *ibid.*

<sup>18</sup> Unfortunately the tables are not separated for the sex of the children, which would allow for sex-specific comparisons.

<sup>19</sup> The terminology in the book is somewhat vague in this respect. Due to a not-very-precise definition of the issues, it is suggested that the increases in the marginal distributions of education—between parents and children—allow for a conclusion of increased educational opportunities. This must be a misunderstanding. As argued before, no conclusions on associations can be drawn from marginal distributions of variables.

<sup>20</sup> K. Hope, "Vertical Mobility in Britain: A Structured Analysis," *Sociology* 15 (1981): 19–55, and "Vertical and Non-vertical Class Mobility in Three Countries," *American Sociological Review* 47 (1982): 99–113.

TABLE 1  
EDUCATIONAL LEVEL OF PARENTS AND CHILDREN IN FOUR EAST EUROPEAN COUNTRIES

Countries	Lower than Incomplete Secondary	Incomplete Secondary	Acquired Education (%)					Higher Education
			Vocational Technical without Secondary	Secondary General	Vocational Technical with Secondary	Technical College	Semihigher Education	
<b>Bulgaria:</b>								
Fathers	55.3	16.5	5.1	8.7	...	6.0	3.0	5.4
Mothers	60.0	15.7	4.5	11.4	...	4.2	2.8	1.5
Young people	1.0	14.3	6.7	14.8	18.7	35.2	.9	7.5
<b>Czechoslovakia:</b>								
Fathers	...	25.1	53.3	2.5	...	12.8	...	6.2
Mothers	...	55.9	31.9	4.3	...	6.5	...	1.4
Young people	.6	12.8	57.0	5.0	...	19.7	...	4.9
<b>Hungary:</b>								
Fathers	32.7	27.0	19.0	4.0	...	8.8	...	8.5
Mothers	42.9	41.1	5.4	3.5	...	4.5	...	2.6
Young people	4.0	26.0	27.2	10.5	23.0	...	...	8.9
<b>Soviet Union:</b>								
Fathers	34.4	31.9	6.8	8.2	...	10.1	1.2	6.3
Mothers	38.4	29.5	4.4	10.1	...	12.2	1.6	3.9
Young people	.5	14.2	19.4	22.8	15.5	17.2	2.8	6.8

SOURCE.—V. Shoubkin, K. Gosponidov, and F. Gaszó, eds., *Youth and Labour* (Sofia: Bulgarian Sociological Association, 1983), table 35, p. 166.



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TABLE 2  
PERCENTAGE RESPONDENTS WITHOUT SECONDARY EDUCATION  
AMONG FATHERS, MOTHERS, AND YOUNGER PEOPLE

Countries	Relative Share of Those without Secondary Education (%)		
	Fathers	Mothers	Young People
Bulgaria	76.9	80.2	22.9
Czechoslovakia	78.4	87.8	70.4
Hungary	78.4	89.4	57.2
Soviet Union	74.1	72.3	34.1

SOURCE.—V. Shoubkin, K. Gosponidov, and F. Gasz6, eds., *Youth and Labour* (Sofia: Bulgarian Sociological Association, 1983), table 37, p. 167.

general and the relative component of opportunity in a stepwise procedure. In addition, it is possible to carry out conditional testing in comparative studies, so differences between groups or countries can be explored.

The differences between the obtained models and the “real” data are expressed in the  $G^2$ -statistic. The lower this statistic—given the number of degrees of freedom—the better the model resembles reality. Hope defined as a base-line his so-called halfway model ( $H$ ), in which homogeneous marginals are assumed, and the cells are filled according to statistical independence. In this way general opportunity is eliminated, and the table is said to show “perfect” opportunity.

TABLE 3  
RECODING SCHEME

New Category Number	New Category	Original Category (Number in Parentheses)	
		Fathers	Children
1	Elementary	Elementary (1) Not complete secondary (2)	Lower than incomplete secondary (1) Incomplete secondary
2	Lower vocational secondary	Vocational training (3)	Vocational without maturity (3)
3	(Vocational) Secondary	General secondary (4) Arbitur and vocational (5)	Vocational, technical without secondary (4) Vocational, technical with secondary (5)
4	Higher education	Not finished higher (6) Higher education (7)	Technical college (6) Semihigher education (7) Higher education (8)

TABLE 4  
THE MODELS APPLIED

Type of Opportunity	Computational Basis	Models	
No association	Halfway model	Baseline	<i>H</i>
General opportunity caused by marginal distributions	Independence model minus halfway model = difference model	Difference model	<i>D</i>
Uniform opportunity nonuniform opportunity minus linear model	Linear component Difference component	Linear model Nonuniform model	<i>L</i> <i>D-L</i>
Relative opportunity	Quadratic distance	Quadratic model	<i>Q</i>

The next step is to extend the model with a component representing aggregate opportunity. For this purpose, the difference model (*D*) is developed. At this stage two components are separated. The first component is a linear term (*L*) that represents aggregate opportunity as a consequence of a uniform upward shift of marginal totals. Introduction of such an *L* component improves the model and diminishes the residual  $G^2$ -values. The improvement in relation to the halfway model is expressed in the explained variance. Next, the second component of the difference model is added. This term (*D-L*) expresses the other part of aggregate opportunity, that is, opportunity as the result of nonuniform structural changes; for instance, an upward shift in only one category.

Having included aggregate opportunity in the models in this way, we next add the component of relative opportunity to the model: whether one has moved upward or downward after having controlled for the aggregate rising educational level. This component consists of a quadratic term (*Q*) that indicates that the chance to be mobile varies quadratically as a function of the number of levels that one rises or drops in relation to the main diagonal, given the other components in the model.<sup>21</sup> The models that are distinguished, and their interrelations, are shown in table 4.

The  $G^2$ -statistic can be interpreted in the same way as the  $\chi^2$ , and their values differ little in this study. L. A. Goodman shows how the  $\chi^2$ -value in a particular model can be compared to the explained variance in regres-

<sup>21</sup> This component may also have other forms. We tested for a linear (*V*) term expressing that the chance to be mobile varies linearly as a function of the number of levels one rises or drops in relation to the main diagonal, given the other components in the model. A mixed model (*M*) is also applied, with *V* above and *Q* below the diagonal. In this model, it is assumed that it is easier to increase compared with the parent than to decrease. These two methods showed less contribution to relative opportunity than the *Q* model.

sion analysis.<sup>22</sup> Just as this variance ( $R^2$ ) can be split up into different components, this is also possible for  $G^2$ . By adding the different terms, the  $G^2$ -values diminish in relation to the (halfway) zero model. The cumulative percentage of explained variance in relation to the halfway model thereby increases. This percentage is calculated as follows:

$$G'^2 = \frac{G^2 (\text{model } H) - G^2 (\text{model } H + \text{added term})}{G^2 (\text{model } H)} \cdot 100\%.$$

For Hope this index of relative improvement of the model is more important than the testing of the significance of the  $G^2$ -values found. To a large extent we agree with this. We believe, however, that significance testing is also interesting in order to determine whether differences between countries exist. For several components in the best-fitting model, parameter values can be computed. By means of these parameters, it is possible to make comparisons between the outcomes for models applied to different data. The  $L$  and  $Q$  parameters will be used. They can be globally interpreted as follows: the higher the  $L$ , the greater the difference between parents and children; and the higher the  $Q$ , the greater the equality between parents and children.

For these models, which will be introduced stepwise, both general and relative opportunity can be detected in the mobility tables. The computations are conducted using the GLIM program.<sup>23</sup>

### Findings

First we search for the models that have the best fit. The  $G^2$ -values found for the different countries in the various models are presented in table 5.

Our aim is to find a model with the best fit, based on the relative improvement of the model. Therefore the fit is in itself not so important. Were this the case, we would have to conclude from the results presented in table 5 that none of the models results in a significant  $G^2$ -value, and therefore we should stop the analysis. However, because our search is for the best-fitting model, we can continue. Nevertheless, we should be cautious in our further presentation.

In table 6 the *parameter* values of the models are given. Two aspects are particularly interesting. First, the amount of general opportunity (rising

<sup>22</sup> L. A. Goodman, "How to Ransack Social Mobility Tables and Other Kinds of Cross-Classification Tables," *American Journal of Sociology* 75 (1969): 1–39.

<sup>23</sup> R. J. Baker and J. A. Nelder, *GLIM (Generalized Linear Interactive Modelling) Manual*, release no. 3 (Oxford: Royal Statistical Society, 1978). In the *presentation* of results, values will be rounded to the nearest integer. A consequence of this can be that the *difference* between two values is sometimes one more or less than appears appropriate.

TABLE 5  
LOG-LINEAR ANALYSIS FOR THE FIVE COUNTRIES

Opportunity Type	Model	df	Residual <i>G</i> Values for the Countries				
			Bulgaria	Czechoslovakia	Hungary	Poland	Soviet Union
Perfect Aggregate	<i>H</i>	12	2,199	672	552	1,400	1,352
	<i>+L</i>	11	192	514	199	724	307
	<i>+(D-L)</i>	8	152	275	169	246	68
Relative	<i>S + Q</i>	7	20	64	42	82	25

  

Opportunity Type	Model	df	% Explained Variance Compared to the Halfway Model				
			Bulgaria	Czechoslovakia	Hungary	Poland	Soviet Union
Perfect Aggregate	<i>H</i>	12	0	0	0	0	0
	<i>+L</i>	1	91	23	64	48	77
	<i>+(D-L)</i>	3	93	59	69	82	95
Relative	<i>S + Q</i>	4	99	91	94	92	97

NOTE.—*S* means that at this stage all aggregate effects have been included, thus  $H + L + (D-L)$ .

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TABLE 6  
PARAMETER VALUES

Opportunity	Parameter	Bulgaria	Czechoslovakia	Hungary	Poland	Soviet Union
Aggregate	<i>L</i>	1.71	1.26	1.46	1.49	1.65
Relative	<i>Q</i>	.89	.80	.83	.85	.93

educational levels) is apparently greatest in Bulgaria and the Soviet Union. Hungary and Poland show a medium growth rate, and Czechoslovakia appears to rate relatively low. We have to take into account, however, the fact that the *L* parameter only shows the linear upgrading over the whole range. Besides this, special categories might have been pushed forward, as expressed in the nonlinear opportunity component. From table 5 we see that this nonlinear component contributes significantly in Czechoslovakia and in Poland. In Poland, but also in Bulgaria and the Soviet Union, it appears that many children having lower vocational secondary training (the second category) have fathers who received only elementary training (the first category). In Czechoslovakia one sees a tendency among the children of fathers with lower vocational secondary training toward secondary training (the third category).

Second, it appears that there are indeed marked differences in relative educational opportunity. Relative opportunity parameters seem to be relatively low in Czechoslovakia, highest in Bulgaria and the Soviet Union, and medium in Hungary and Poland. This is quite a remarkable result,

TABLE 7  
GENERAL TEST FOR INTERACTION WITH COUNTRY, LOG-LINEAR ANALYSIS

Opportunity Type	Model	Model Term	df	$G^2$
Perfect opportunity	Baseline model halfway × Interaction	(H)	76	11,340
		(H × C)	60	6,175
Aggregate opportunity	Linear opportunity × Interaction	(L)	59	2,134
		(L × C)	55	1,935
	Difference	4	199	
	Nonuniform opportunity × Interaction	(D-L)	57	1,560
((D-L) × C)		45	910	
	Difference	12	650	
Relative opportunity	Quadratic distance model × Interaction	(Q)	44	299
		(Q × C)	40	233
		Difference	4	65

NOTE.— $G^2$  = residual  $G^2$  values for the countries.

TABLE 8  
DIFFERENCE TERMS FOR INTERACTION WITH COUNTRY OVER PAIRS  
OF COUNTRIES, LOG-LINEAR ANALYSIS

	Bulgaria	Czechoslovakia	Hungary	Poland	Soviet Union
A. Differences in $L$ (df = 1):					
Bulgaria					
Czechoslovakia	171				
Hungary	37	28			
Poland	41	47	1		
Soviet Union	2	116	20	19	
B. Differences in $D-L$ (df = 3):					
Bulgaria					
Czechoslovakia	329				
Hungary	64	193			
Poland	166	389	66		
Soviet Union	38	367	110	89	
C. Differences in $Q$ (df = 1):					
Bulgaria					
Czechoslovakia	29				
Hungary	16	2			
Poland	7	8	1		
Soviet Union	5	50	27	22	

as will be discussed later. Observation of specific entries in the tables, incidently, does not reveal specific sources of variation.

In order to establish that the differences between these parameters are beyond statistical doubt, we tested generally for the significance of differences between countries. Technically, this means that an interaction term  $C$  is added to the model. Comparison of these extended models with the original ones will show whether the inclusion of country improves the models.

As is shown in table 7, *all* the difference tests show that these are highly significant (with 4 degrees of freedom values ranging from 65 to 650; corresponding  $p$ -values are much less than .001). This means that we can speak of *neither* a similar development in the level of education in these socialist countries *nor* a similar pattern of educational opportunity.

From a further (pairwise) analysis of the similarities in these educational opportunity patterns we could draw some further conclusions. Due to lack of space, only the differences caused by the interaction terms are presented in table 8.<sup>24</sup>

It appears that the most general contrasts in aggregate opportunity patterns can be observed in the Soviet Union and Bulgaria—although there is still a great difference between both countries in nonlinear mobility—as well as in the pair Hungary-Poland. The most dissimilar

<sup>24</sup> The complete results of the analyses are available on request from us.

country is Czechoslovakia, where the greatest differences, as we already noted, concern nonuniform opportunity.

On looking into the similarities in relative educational opportunities, a different pattern is discerned. Czechoslovakia, Poland, and Hungary seem removed from the Soviet Union. Hungary and Poland appear rather close to each other, as do Bulgaria and the Soviet Union. However, some puzzling similarities remain, such as those between Bulgaria and Poland and between Czechoslovakia and Hungary. It is obvious that more detailed data are needed to produce a more coherent view of the situation.

### Conclusion and Discussion

We have addressed the issue of educational opportunity in five socialist societies. After a discussion of some findings of the comparative study on *Youth and Labour*,<sup>25</sup> we have reanalyzed the original tables using log-linear models. It appears that a *remarkable growth* in educational attainments has indeed taken place. The Soviet Union and Bulgaria seem to have profited most in this respect. The main issue, however, is whether the *opportunity patterns*—in our terms, the relative improvement—were different among the five countries, all belonging to the socialist block and subscribing to the same basic ideology. Here again, the Soviet Union and Bulgaria seem to have the highest parameters, indicating a relative absence of social barriers in education. Czechoslovakia seems to have a rather closed structure, whereas Hungary and Poland occupy intermediate positions. The differences among the socialist countries are statistically very significant.

These findings are particularly challenging, as *there has been no empirical evidence of such patterns until now*. However, some cautionary remarks should be made. In the first place, the results apply only to a cross section of the 16–29-year-old population surveyed *at the beginning of the 1980s*. Although we have studied the educational gap between parents and children, we must not assume that this provides the best possible description of educational developments in time. Indeed, we have no way of finding out if the various parameters have changed. This would require tables at many moments in time and allow a comparison of different birth cohorts. We would then be able to conclude something concerning the *developments* in educational opportunities: are they improving, and are socialist societies approaching each other in this respect? Because of a lack of data, we cannot answer this question.

The position of Czechoslovakia at the bottom of the distributions deserves comment. Recent analyses have shown strong within-country differences for the Czech lands and Slovakia.<sup>26</sup> By taking the country as

<sup>25</sup> Shoubkin et al. (n. 11 above).

<sup>26</sup> P. Matéju and J. L. Peschar, "Educational Mobility in Czechoslovakia and the Netherlands" (paper presented at the conference "Societies at Borderlines," Graz, Austria, October 1987).

one unit, the stagnation in development for the young generation in the Czech lands is partly “compensated” by rapid developments in Slovakia. For this reason, the Czechoslovakian findings should be interpreted with caution. In making such remarks, however, we must be aware that similar ex post comments might “explain” the findings in other countries as well.

It would be interesting to compare parameter estimates for the relative positions—the opportunity issue—with those available from other studies. Some comparative studies have been conducted in Poland, Hungary, Czechoslovakia, and the Netherlands.<sup>27</sup> When we compare parameters—cautiously, because classifications vary somewhat—it seems that the educational opportunities in Bulgaria and the Soviet Union are indeed moderately higher than in these other countries.<sup>28</sup> Because of the lack of additional empirical data from state socialist countries, it is not possible to validate these findings against other studies. It is clear that, if global cross-national data existed similar in kind to that reported by Shoubkin et al., we could study educational qualifications and opportunity over time. For now, we shall have to be satisfied with only the first fragments of the larger picture.

### Appendix

This appendix contains the tables for the five countries. In the rows are the data for fathers, in the columns for children. The lines show where the different educational categories have been combined to produce tables that can be analyzed. For the meaning of the category numbers (both row and column), see table 3.

<sup>27</sup> See J. L. Peschar, R. Popping, and B. Mach, “Educational Mobility in Poland and the Netherlands,” *Netherlands Journal of Education* 1 (1986): 119–39; J. L. Peschar and R. Popping, “Educational Mobility in Hungary and the Netherlands: A Log-linear Analysis,” in *Research in Sociology of Education and Socialization*, ed. A. Kerckhoff (Greenwich, Conn.: JAI, 1986), 6:45–78; J. L. Peschar and P. Matéju, “Hope for Educational Reforms? Levels and Opportunities in Czechoslovakia and the Netherlands” (paper presented at the meeting of the International Sociological Association Research Committee on Social Stratification and Mobility, Madison, Wis., August 1988).

<sup>28</sup> The average  $Q$  parameter value is .80 for these countries with a classification into four categories. For further details, we refer to the original studies mentioned in the previous note.



TABLE A1  
BULGARIA ( $N = 2,957$ )

Fathers	Children							
	1	2	3	4	5	6	7	8
1	47	282	143	192	317	516	4	59
2	4	60	27	86	81	168	6	37
3	1	13	7	21	34	56	4	8
4	2	22	4	43	43	101	4	29
5	0	8	2	29	29	78	2	22
6	0	4	2	17	6	31	3	22
7	2	7	2	33	18	48	4	39

TABLE A2  
CZECHOSLOVAKIA ( $N = 1,906$ )

Fathers	Children							
	1	2	3	4	5	6	7	8
1	0	0	0	0	0	0	0	0
2	9	122	254	12	0	63	0	10
3	3	101	661	40	0	167	0	27
4	0	2	17	4	0	13	0	11
5	0	10	108	22	0	87	0	18
6	0	0	0	0	0	0	0	0
7	0	4	33	15	0	39	0	26

TABLE A3  
HUNGARY ( $N = 1,815$ )

Fathers	Children							
	1	2	3	4	5	6	7	8
1	35	198	146	32	76	0	0	34
2	13	102	133	46	109	0	0	33
3	5	72	109	31	75	0	0	14
4	0	7	14	6	21	0	0	17
5	0	7	29	25	56	0	0	25
6	0	0	0	0	0	0	0	0
7	0	6	5	12	18	0	0	9

TABLE A4  
POLAND ( $N = 2,864$ )

Fathers	Children							
	1	2	3	4	5	6	7	8
1	183	234	814	51	381	0	44	25
2	8	22	28	5	29	0	4	6
3	20	54	283	28	123	0	10	12
4	1	17	31	4	29	0	9	10
5	3	43	77	22	77	0	15	9
6	3	14	20	18	49	0	26	23
7	0	0	0	0	0	0	0	0

TABLE A5  
THE SOVIET UNION ( $N = 2,300$ )

Fathers	Children							
	1	2	3	4	5	6	7	8
1	4	105	190	151	110	113	13	15
2	1	96	112	134	108	122	25	33
3	0	12	21	35	33	22	3	9
4	0	25	32	26	27	33	4	16
5	0	16	12	53	25	11	6	36
6	0	2	2	6	3	7	2	2
7	0	13	8	38	8	21	5	32