

THE INTERGENERATIONAL TRANSMISSION OF EDUCATIONAL ATTAINMENT IN RUSSIA

Borisov Gleb

St. Petersburg State University, 7/9 Universitetskaya nab., St. Petersburg, 199034 Russia

Abstract

We use panel data over 1994-2013 to estimate the determinants of educational attainment of Russian children aged of 30-65. We found that children's educational achievements are strongly affected by fathers' educational attainment. The pattern of the intergenerational education mobility depends on gender and locality. The upward education mobility of daughters prevails. The downward education mobility prevails among sons, especially in regions specializing in extraction and processing of natural resources. The downward pattern of son's education mobility disappears in the Central region, where sons are expected to achieve the same educational attainment their fathers have.

Keywords: Russia, human capital, education, intergenerational mobility

JEL code: J240, J620

A conceptual framework

This paper is aimed at the exploration of intergenerational transmission of human capital within families in contemporary Russia. The intergenerational mobility of human capital has been considered first by Becker and Tomes (1979) to give a theoretical explanation of the intergenerational persistence of the between-family earnings differentials. They assume that the ability of wealthier parents to invest more in human capital of their children contributes to the long-run persistence of income inequalities. Becker and Tomes (1979) considered the human capital investment in the family context and proposed the model with two overlapping generations and parents as decision makers. According to the model, offspring's human capital depends on investments made by parents as well as offspring's abilities, family background, and offspring's luck.

The intergenerational transmission of human capital can proceed in different ways according to the dimensions human capital has. Parents spend a part of income and time at their disposal to encourage offspring to obtain an education. Motivation for high achievement can be transferred to offspring without the active participation of parents via belonging to a certain family culture. It is commonly assumed in the literature that the relationship between children's educational attainment E_i^C and parents' educational attainment E_i^P is due to the ability and willingness of fathers to invest in their children's human capital as well as other factors affecting the ability of their children to seize educational opportunities (Black, Devereux, 2011):

$$E_i^C = a_0 + a_1 E_i^P + \mathbf{C}\mathbf{X}_i + e_i, \quad (1)$$

where the vector \mathbf{X}_i includes such proxies for family background as grown children's marital status and nationality, environmental indicators for population per locality and region, and the children's household composition; e_i is an error factor.

Shavit and Blossfeld (1993) were one of the first who studied intergenerational persistence in education by examining the correlation of children's attainment with parental background by

age cohorts. Haveman and Wolfe (1995) provide the evidence that parents' education is the most important contributor to children's success at school. Hertz et al. (2007) and Chevalier et al. (2009) find that intergenerational educational persistence is higher in countries with higher returns on education and lower in countries that spend more public funds on education. This result is consistent with findings for intergenerational income persistence (Causa and Johansson, 2010).

National peculiarities as to the financing of education, the degree of openness of the labor market, and parents' preferences for investing in human capital of the next generation are responsible for the international differences in the intergenerational persistence of economic status. Solon (1999) exemplifies a society with a very high degree of the transmission as a «cast» society, where the parents' status is completely inherited. However, at the other extreme is a society with complete mobility across generations, where skills acquired by offspring within the family or as a result of parents' direct investment do not determine the offspring's economic status at all, which may also harm long-term economic growth and development.

Data

We use the Russian Longitudinal Monitoring Survey (RLMS) as a primary source of information on individual's and household's characteristics. The RLMS is based on a representative sample of more than ten thousand individuals. The dataset consists of vast information on individuals and their households including questions on education, family composition, environmental characteristics, among others. The RLMS data is a multi-wave panel dataset combining 22 rounds over 1994-2013 by the time of the paper writing.

The survey includes information on family ties that allows merging of children's and parents' data, whereas the panel features of the dataset enable to define parents of those children who left parental households during the survey and formed the own in the same locality as their parents. The panel structure of the dataset also allows checking between round consistency of the data.

The survey includes information on individual years of schooling and academic degrees achieved which we use to create three categories measuring educational attainment. The categories are described in Table 1.

Table 1. The description of categories for educational attainment.

Category	Description
Below-secondary or secondary education	Includes primary, incomplete secondary, full secondary education probably with basic professional training such as a professional course, a technical trade school, etc.
Technical school	Implies the completion of a technical, medical, music, pedagogical, art school (-s)
Tertiary education	Implies the graduation from an institute, university, academy, or a postgraduate school.

The three-category measure of educational attainment seems an appropriate alternative to more detailed measures if an estimation sample includes only a few offspring with primary or incomplete secondary education, as it is in our case.

The RLMS consists of several variables describing locality where a respondent resides. We use them to define regional dummies for the Central, North-Western, Volga Basin, Southern, North-Caucasian, Ural, Siberian and Far Eastern regions indicating in which federal district an individual resides. They account for differences in the distribution of human capital between geographical regions. Indicators for population size of locality where a respondent resides are

included to account for discrepancies in human capital between settlements of different sizes. Classifying observations by category is generally guided by the rules described in Table 2.

Table 2. The description of categories for settlement size.

Category	Population per locality
Capital cities	more than 4 mln.
Big cities	0.8-4 mln
Medium-sized cities	130-800 thousand
Small towns	30-130 thousand
The countryside	less than 30 thousand

The dummy for marital status indicates if partners live together irrespective of whether the marriage is officially registered or not. The definition ensures round consistency of the measure, because the questionnaires used in several rounds didn't include the direct question about the official registration of the marriage.

Nationality is likely to represent the influence of parental background on offspring's education. The RLMS dataset covers representatives of many nationalities living in Russia. We aggregated their answers into four national groups each represented by a separate dummy. The first group includes Russians, Ukrainians, and Belorussians. The second one encompasses people who considered themselves part of a national group in which representatives traditionally worship Christianity such as Poles, Spaniards, Armenians and so on, except those included in the first group. The third group covers the Islamic people such as the Tartars, peoples of Central Asia and North Caucasus, etc. Other nationalities such as the Buryats, the Chuvash, the Kalmyks, etc. are aggregated into the fourth group.

The total number of family members and the number of children in the household are usually considered as the factors determining education achievements. They refer to the definition of a household which includes people living together and having common income and expenditures including unmarried children younger than age 18 who study in a different population center.

The panel structure of the data enables to check the consistency of a respondent's characteristics that should be constant over time such as the education degree, nationality, residence, region and gender, for which the most probable individual values are determined on the basis of the data collected in all of the rounds of the survey. Any variable from the right-hand side of equation 1 is an individual average of a corresponding characteristic over all non-missing values it takes for a certain individual in all rounds of the survey. Averages of binary dummy variables are then rounded to the nearest integer to keep the binary format. The averages are estimated on the sample of individuals of age 30-65 to prevent a downward bias of the human capital measure.

The descriptive statistics on estimated samples are presented in Table 3.

Table 3. Descriptive statistics on estimated samples.¹

Sample	Sons and fathers ²	Daughters and fathers ³
Sample size	848	803
Year of father's birth	1947.5 [8.237]	1947.7 [8.179]
Below-secondary or secondary father's education	0.458	0.416
Fathers with technical school	0.384	0.412
Tertiary father's education	0.158	0.172
Year of children's birth	1974.4 [6.418]	1974.9 [6.413]
Below-secondary or secondary children's education	0.377	0.214
Children with technical school	0.390	0.396
Tertiary children's education	0.232	0.390
Capital cities' residents	0.118	0.119
Big cities' residents	0.120	0.131
Middle cities' residents	0.217	0.242
Small cities' residents	0.188	0.207
The countryside's residents	0.357	0.301
Married children	0.587	0.593
N of members in the children's household	4.176 [1.769]	4.317 [1.614]
N of children aged under 3 in the children's household	0.181 [0.351]	0.199 [0.362]
N of children aged under 17 in the children's household	0.608 [0.775]	0.998 [0.779]
Russian, Ukrainian, or Belorussian children	0.800	0.880
Christian (non-Russian) children	0.040	0.020
Moslem children	0.130	0.075
Children of other nationalities	0.030	0.025
The Central region's residents	0.252	0.270
The North Western region's residents	0.086	0.086
The Volga Basin region's residents	0.205	0.220
The Southern region's residents	0.123	0.137
The North Caucasian region's residents	0.112	0.059
The Ural region's residents	0.055	0.072
The Siberian region's residents	0.109	0.099
The Far Eastern region's residents	0.058	0.057
Children living with parents	0.834	0.812

¹ Sample means with standard deviations in brackets and shares of specified groups.

² The sample includes pairs of a son and his father whose age is restricted between 30 and 65 and who reported at least once during the survey non-missing values for all the variables included in equation 1.

³ The sample includes pairs of a daughter and her father whose age is restricted between 30 and 65 and who reported at least once during the survey non-missing values for all the variables included in equation 1.

Equation 1 is estimated for two different samples. The first sample consists of 848 pairs of father and his son whose age is between 30 and 65 and who reported at least once during the survey non-missing values of all the variables included in equation 1. The second sample includes 803 pairs of father and his daughter whose age is restricted between 30 and 65 and who reported at least once during the survey non-missing values of all the variables included in equation 1.

The difference in gender composition explains the variation of educational attainment across the samples. Since the female offspring is usually more educated in Russia than the male

offspring is, educational attainments of sons included in the first sample are lower than these of daughters in the second sample.

The number of children aged under 17 in daughters' households is larger than that in sons' households. We suggest that this result is due to the prevalent practice of children living with mothers, rather than with fathers.

To check that the samples cover the most mobile offspring with the highest earnings capacity who live apart from their parents in a separate household, a share of offspring living with parents is found. Each household which participated in the survey was assigned an identification number which is unique for each survey round, so comparing identification numbers of households, to which offspring and his or her parents belong, enables determination of those children who lived with parents in the same household in each round. Thus, a share of offspring living with parents is defined as the proportion of offspring who lived together with both parents or with one parent for most of survey rounds, which they participated in. Table 3 shows that the share of offspring living separately from their parents is in the range of 0.166 to 0.188, depending on the sample. This share seems to be large enough to prevent the bias caused by the underrepresentation of the most mobile offspring.

Estimation Results

Equation 1 is estimated for two samples each containing pairs of either sons and fathers or daughters and fathers by the ordered probit estimator, because the distribution of errors from equation 1 appears to be closer to normal distribution than to a logistic one. We use a robust estimator adjusting standard errors to clusters in parents. The estimation results are presented in Table 4.

Table 4. The estimates of equation 1.

Sample	Sons and fathers	Daughters and fathers
Fathers with technical school	0.5638*** [0.0887]	0.4854*** [0.0923]
Father's tertiary education	0.9655*** [0.1427]	0.9531*** [0.1376]
Children's marital status	0.1641* [0.1009]	0.1171 [0.0963]
Christian (non-Russian) children	-0.2019 [0.1971]	0.4947* [0.2630]
Moslem children	-0.3737* [0.1985]	-0.3049* [0.1774]
Children of other nationalities	0.6054*** [0.2159]	-0.2127 [0.2600]
Big cities	0.2739 [0.2115]	0.2033 [0.2151]
Medium-sized cities	0.2337 [0.1709]	-0.2172 [0.1721]
Small towns	0.0497 [0.1790]	-0.3437* [0.1974]
The countryside	-0.2138 [0.1716]	-0.6173*** [0.1740]
The North Western region	-0.2730 [0.1745]	-0.2157 [0.1729]

Sample	Sons and fathers	Daughters and fathers
The Volga Basin region	-0.3766*** [0.1420]	-0.1926 [0.1460]
The Southern region	0.0278 [0.1543]	0.1425 [0.1584]
The North Caucasian region	0.1828 [0.2170]	-0.2290 [0.2364]
The Ural region	-0.5689*** [0.2030]	-0.5129*** [0.1849]
The Siberian region	-0.3525** [0.1566]	-0.3906** [0.1778]
The Far Eastern region	-0.3220 [0.2118]	-0.3073 [0.2095]
N of members in the children's household	-0.0409 [0.0289]	-0.0940*** [0.0307]
N of children aged under 3 in the children's household	0.0505 [0.1443]	0.2777** [0.1286]
N of children aged under 17 in the children's household	0.0749 [0.0786]	-0.0854 [0.0703]
Cutpoint 1	-0.1953 [0.1907]	-1.3655 [0.2054]
Cutpoint 2	0.9799 [0.1926]	-0.1288 [0.1995]
Number of observations	848	803
Pseudo R-squared	0.0841	0.1067

The dependent variable is the 3-level categorical variable of either son's educational attainment or daughter's educational attainment.

* Significant at .10 level.

** Significant at .05 level.

*** Significant at .01 level.

Robust standard errors adjusted for clusters formed by father are in brackets.

The results show that fathers' educational attainments strongly affect educational achievements of both sons and daughters. As expected, the relationship is positive, so that the higher father's educational attainment is, the higher the children's educational attainment is expected to be. Muslim children regardless of gender have a lower probability to graduate from a technical school or university than the reference group consisting of Russian, Ukrainian, and Belorussian offspring. Offspring's educational attainment also depends on region of residence. Compared with the Central region that is taken as the reference, educational attainments of both sons and daughters are significantly lower in the Urals and Siberian regions. We suggest that lower educational attainment of children living in the Urals and Siberian regions is due to the fact that these regions specialize in the extraction and processing of raw materials, which requires relatively less educated workers.

As expected, the household composition is a gender-specific factor of children's educational attainment. The total number of members in the daughter's household has a significant negative effect on her educational attainment, whereas the son's educational attainment depends much less on this factor. The interpretation is twofold. On the one hand, a woman who lives in a large family may choose to devote herself to the care of children and other members of the household. On the other hand, a tighter budget constraint discourages women living in large families from human capital investments. Since females in Russia earn significantly less than males

do (Gimpelson, Kapeliushnikov, 2007), a woman forgoes lower earnings than a man when she refuses to continue education, so in large families wives are more likely to give up work than husbands.

Another factor affecting primarily daughter’s educational attainment is the number of children three or less years old in the offspring’s household. Its effect on the daughter’s educational attainment is statistically significant and positive, that is, having little children is accompanied by higher educational attainment of a daughter. This case seems to refer to a practice of having children after graduation from a university, which is common among young women in Russia.

Finally, the settlement size also impacts differently on educational attainment of children of different sexes. Educational attainment of daughters seems to be much more dependent on the demographics of locality than that of sons. The data shows that daughters living in small cities and in rural areas are expected to have lower educational attainment than daughters living in the Metropolitan area, and the difference in probabilities is statistically significant. The probability of observing certain educational attainment of sons is little dependent of their place of residence.

Using the results of the estimation, we predicted the probabilities of achieving each level of educational qualification conditional upon parents’ educational attainment. Table 5 displays the predicted probabilities of achieving each level of educational qualification for a single offspring of Russian, Ukrainian or Belorussian nationality who resides in the Volga Basin region in a non-urban settlement and whose household composition corresponds to the means of the respective samples.

Table 5. The predicted probabilities of children to achieve each level of educational qualification conditional on fathers’ educational attainment, the rural areas of the Volga Basin region.

Father’s education	Son’s education			Daughter’s education		
	Secondary or below secondary	Technical school	University or higher	Secondary or below secondary	Technical school	University or higher
Secondary or below-secondary	0.695	0.259	0.046	0.452	0.416	0.132
Technical school	0.479	0.390	0.131	0.273	0.463	0.264
University or higher	0.325	0.440	0.235	0.142	0.423	0.435

Table 5 demonstrates a high sensitivity of predicted probabilities of offspring to achieve each level of educational qualification to fathers’ educational attainment. Based on the estimates presented in Table 5 we can find the risk ratio defined as a ratio between the probability of an offspring to achieve higher education given that her or his father had achieved tertiary education and the probability of offspring to achieve tertiary education given that her or his father had achieved secondary or below-secondary education. The risk ratio for sons equals to 5.1, whereas the risk ratio for daughters is about 3.3. Thus, coming from the high-educated family increases the probability to achieve higher education 5.1 times for sons and by 3.3 for daughters, as compared to offspring from the low-educated family.

As expected, education mobility is most intensive between adjacent educational categories, that is, offspring is most expected to achieve the nearest level of education qualification to what her or his father has achieved. Table 5 shows that son’s educational attainment is expected to be less or at least no more than his father’s educational achievement. Sons of secondary educated

fathers are expected to have secondary or below secondary educational attainment with the probability of 0.695. Secondary or below secondary educational attainment is the most probable educational achievement for sons of medium-educated fathers. Given that father graduated from university or postgraduate school, the probability that his son achieve the same educational attainment is only 0.235. Thus, the downward short-distance education mobility dominates among sons.

In contrast, a daughter is expected to achieve the same educational attainment that her father has achieved. Secondary educational attainment is the most probable (with the probability of 0.452) to be achieved by daughters of secondary educated fathers. Daughters of medium-educated fathers achieve a technical school education with the probability of 0.463. The probability of daughters of tertiary educated fathers to achieve higher education is 0.435.

The long-distance education mobility is another measure of the intergenerational transmission of educational attainment from parents to offspring. The long-distance mobility is a probability of a person from the bottom or top category or tail of the distribution to end up in the opposite category or tail. “Bottom-to-top” education mobility is measured as the probability of a child to achieve tertiary educational attainment conditional upon her or his father having secondary or below-secondary educational achievement. Conversely, “top-to-bottom” education mobility is measured as the probability of a child ending up in the secondary educated category conditional upon her or his father having tertiary education. It follows from Table 5 that the probability of a son to achieve tertiary education conditional upon his father having secondary or below-secondary educational attainment is 0.046, whereas his probability of ending up in the secondary educated category conditional upon his father having tertiary education is equal to 0.325. The downward education mobility again dominates among sons. The measures of “bottom-to-top” and “top-to-bottom” education mobility of daughters are 0.132 and 0.142 respectively. This confirms the pattern of the short-distance mobility of daughters.

The discussed probabilities of achieving each level of educational qualification are predicted for children residing in the rural areas of the Volga Basin region. Since demand for high-skilled labour and educational opportunities vary by region, we also predict probabilities of achieving each level of educational qualification for children residing in the metropolitan area characterized by vast educational opportunities and numerous vacancies open for high-qualified workers. The estimates for single sons and daughters of the Russian, Ukrainian or Belorussian nationality living in households in which composition corresponds to the means of the respective samples are presented in Table 6.

Table 6. The predicted probabilities of children to achieve each level of education qualification conditional on fathers’ educational attainment, the metropolitan area.

Father’s education	Son’s education			Daughter’s education		
	Secondary or below secondary	Technical school	University or higher	Secondary or below secondary	Technical school	University or higher
Secondary or below-secondary	0.469	0.395	0.136	0.166	0.439	0.395
Technical school	0.260	0.443	0.297	0.073	0.340	0.587
University or higher	0.148	0.404	0.448	0.027	0.219	0.754

The estimates presented in Table 6 show that in the metropolitan area downward education mobility which prevails among sons residing in the Volga Basin region, disappears. Now a son is expected to achieve the same educational attainment his father has achieved regardless of what the father's educational attainment is. "Bottom-to-top" mobility of sons increases 3 times up to 0.136, and "top-to-bottom" mobility decreases more than 2 times up to 0.148. The upward education mobility of daughters is strongly pronounced. Daughters from secondary educated families improve their educational attainments with the probability 0.834. The probability of daughters from medium-educated families to achieve the same or higher educational attainment as their fathers have is equal to 0.927. Daughters coming from tertiary educated families achieve tertiary education with the probability of 0.754. "Bottom-to-top" mobility of daughters residing in the metropolitan area increases 3 times equal to 0.395 and "top-to-bottom" mobility drops to a vanishingly small value of 0.027 demonstrating a 5 time decrease compared with the corresponding measures for daughters residing in rural areas of the Volga Basin region. The achievements of children residing in capital cities are sensitive to father's educational attainment. The risk ratios for sons and daughters residing in the metropolitan area are 3.3 and 1.9 correspondingly.

The difference between the values of the "bottom-to-top" and "top-to-bottom" education mobility is a concise summary measure of education mobility showing approximately what type of mobility dominates. This is defined as the probability of a child achieving tertiary educational attainment conditional upon her or his father having secondary or below-secondary educational achievement minus the probability of a child ending up in the secondary educated category conditional upon her or his father having tertiary education. A large positive value of the measure indicates that upward education mobility prevails in a certain locality, whereas a large negative value is a sign of the downward mobility domination. Tables 7 and 8 present the findings by region and settlement type for sons and daughters respectively.

Table 7. The difference between "bottom-to-top" and "top-to-bottom" education mobility of sons, by region and settlement type.

Locality	Settlement type				
	Capital cities	Big cities	Middle cities	Small cities	The countryside
The Central region	-0.012	0.112	0.094	0.011	-0.108
The North Western region	-0.135	n.e.	-0.029	-0.112	-0.232
The Volga Basin region	n.e.*	-0.058	-0.076	-0.159	-0.279
The Southern region	n.e.	0.124	0.106	0.023	-0.095
The North Caucasian region	n.e.	n.e.	0.176	0.093	-0.026
The Ural region	n.e.	-0.145	-0.163	-0.247	-0.367
The Siberian region	n.e.	-0.047	-0.065	-0.148	-0.268
The Far Eastern region	n.e.	n.e.	-0.051	-0.134	-0.254

* not exist

Table 8. The difference between “bottom-to-top” and “top-to-bottom” education mobility of daughters, by region and settlement type.

Locality	Settlement type				
	Capital cities	Big cities	Middle cities	Small cities	The countryside
The Central region	0.368	0.458	0.271	0.214	0.093
The North Western region	0.271	n.e.	0.174	0.119	-0.002
The Volga Basin region	n.e.*	0.373	0.185	0.129	0.008
The Southern region	n.e.	0.520	0.335	0.278	0.156
The North Caucasian region	n.e.	n.e.	0.169	0.113	-0.007
The Ural region	n.e.	0.229	0.043	-0.012	-0.132
The Siberian region	n.e.	0.284	0.097	0.042	-0.078
The Far Eastern region	n.e.	n.e.	0.134	0.078	-0.042

* not exist

Table 7 confirms the prevalence of downward education mobility among sons residing in the countryside regardless of region and in many regions regardless of settlement type. Thus, downward education mobility is prevalent among sons residing in the North Western, Volga Basin, Ural, Siberian, and Far Eastern regions. Table 8 confirms the prevalence of upward education mobility among daughters residing in cities of all sizes, except those who reside in the Ural region where the upward education mobility among daughters exists only in big cities.

Policy Conclusions

The findings indicate that parents’ educational attainments positively affect educational achievements of children of both genders. The revealed mobility patterns depend on children’s gender and the demographics of locality. The upward education mobility of daughters is well pronounced. The measures of both long-distance and short-distance education mobility for daughters show that they achieve the same or better educational attainment their fathers have. High sensitivity of educational attainment of children to that of parents proves that parental background affects the probability of offspring to achieve higher education.

On the other hand, downward education mobility prevails among sons. It is clearly observed in regions specializing in extraction and processing of natural resources. The downward pattern of son’s education mobility disappears in the Central region, where sons are expected to achieve the same educational attainment their fathers have.

The downward education mobility of sons gives grounds to assert that there are signs of a decrease of human capital in Russia. We suggest that these findings are largely due to the deindustrialization of the Russian economy which happened during 1990s, when the number of higher education graduates had considerably decreased following the dramatic fall in the demand for high-skilled labour. Since the data used in this research includes individuals born before 1984, the findings don’t account for the rise of tertiary education graduates after 2000. Anyway, the case suggests that in order to prevent the decrease in human capital the economic policy should be focused on the creation of job places for high-skilled workers, especially outside the metropolitan area.

References

Becker G. & N. Tomes (1979) “An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility”, *Journal of Political Economy*, 87, no. 6. 1153–1189.

Black, S. E. & P. J. Devereux (2011) Recent Developments in Intergenerational Mobility, in *Handbook of Labor Economics*, vol. 4B. Edited by D. Card & O. Ashenfelter. Elsevier B.V., North Holland.

Causa O. & A. Johansson (2010) “Intergenerational Social Mobility in OECD Countries”, *OECD Journal: Economic Studies*, 2010. 1–44.

Chevalier, A., K. Denny & D. McMahon (2009) A Multi-country study of inter-generational educational mobility, in *Education and Inequality Across Europe*. Edited by P. Dolton, R. Asplundh & E. Barth. Edward Elgar, London.

Haveman, R. & B. Wolfe (1995) “The determinants of children attainments: A review of methods and findings”, *Journal of Economic Literature*, 33, no. 4. 1829–78.

Hertz, T., T. Jayasundera, P. Piraino, S. Selcuk, N. Smith & A. Verashchagina (2007) “The inheritance of educational inequality: international comparisons and fifty-year trends”, *The B.E. Journal of Economic Analysis & Policy*, 7, Article 10.

Gimpelson, V. & R. Kapeliushnikov (eds.) (2007) *Wages in Russia: Their Evolution and Differentiation*. Moscow: HSE Publishing House. (in Russian)

Shavit, Y. & H.-P. Blossfeld (eds.) (1993) *Persistent Inequality. Changing Educational attainment in Thirteen Countries*. Westview Press: Boulder et al.

Solon, G. (1999) Intergenerational Mobility in the Labor Market, in *Handbook of Labor Economics*, vol 3A. Edited by D. Card & O. Ashenfelter. Elsevier B.V., North-Holland.