The Influence of Family Origin on the Evolution of Educational Inequalities in the Czech Republic after 1989

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Vliv rodinného původu na vývoj vzdělanostních nerovností v České republice po roce 1989

Natalie Simonová

Abstraktum

Tato práce se zabývá vývojem nerovností v přístupu k terciárnímu vzdělání v České republice po roce 1989. Jejím hlavním východiskem je fakt, že po „sametové revoluci" došlo k výraznému nárůstu poptávky po středoškolském vzdělání s maturitou a po vysokoškolském studiu, a to na úkor učňovských oborů, ať už s maturitou, či bez maturity. Vstupní hypotézou tohoto textu pak bylo tvrzení, že po roce 1989 došlo v České republice ke zvýšení vzdělanostních nerovností způsobenému nerovnoměrným vývojem sekundárního a terciárního sektoru školství. Bylo tak využito zjištění, ke kterému dospěli Gerber a Hout [1995] a Gerber [2000], tj. že přetlak uchazečů, ke kterému dojde mezi dvěma úrovněmi vzdělání, zvyšuje nerovnosti v přístupu ke vzdělání v neprospěch nižších sociálních vrstev. S využitím metody logistické regrese byl modelován vliv sociálního původu na pravděpodobnost úspěšného přechodu mezi středním a vysokým školstvím v období let 1948–1999, rozděleném do tří věkových kohort. Hypotézu o rostoucím vlivu sociálního původu na úspěch v tranzici mezi střední a vysokou školou v devadesátých letech se však potvrdit nepodařilo. Trend po roce 1989 naopak hovoří ve prospěch snižujících se nerovností v přístupu ke vzdělání. Zatímco v 70. a 80. letech vzdělanostní nerovnosti podle dosaženého vzdělání otce rostly, v 90. letech naopak klesaly. Vysvětlení tohoto zjištění je nalezeno ve struktuře maturantů, kteří se hlásí na vysokou školu.

Klíčová slova

vzdělání, vzdělávací systém, tranzice mezi dvěma sektory vzdělávacího systému, úspěch v tranzici, rodinný původ, sociální původ, přístup ke vzdělání, proces dosahování vzdělání, vzdělanostní nerovnosti, maturita (zakončení úplného středního vzdělání), expanze maturit, reforma vzdělávacího systému

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Abstract

This article deals with the evolution of inequalities in access to tertiary education in the Czech Republic after 1989. Following the 'velvet revolution' in 1989, the demand for both secondary-school education (with a secondary-school diploma) and post-secondary education grew considerably. The opening hypothesis of this article is that the increase in educational inequalities in the Czech Republic after 1989 has been caused by unequal development of the secondary and tertiary sectors of the educational system. The author starts with the findings of Gerber and Hout [1995] and Gerber [2000], that the pressure caused by an excess number of applicants between these two levels of education disadvantages the lower social strata. Using the method of logistic regression, the author models the influence of family (social) origin on the likelihood of a successful transition from secondary school into post-secondary school in the period 1948–1999. The hypothesis of the growing influence of family (social) origin on success in the transition between secondary and post-secondary school in the 1990s was not however confirmed. On the contrary, the trend after 1989 testifies rather to a decrease in inequalities in access to education. While in the 1970s and 1980s educational inequalities according to the level of education achieved by the father increased, in the 1990s they decreased. An explanation for this observation may be found in the structure of high-school graduates applying to university.

Keywords

Education, educational system, transition between two sectors of educational system, success in the transition, family origin, social origin, access to education, educational attainment, educational inequality, 'maturita' (Czech secondary-school diploma), expansion of diplomas, reform of educational system

Einfluss der familiären Herkunft auf die Entwicklung von Bildungsungleichheiten in der Tschechischen Repbublik nach dem Jahr 1989

Natalie Simonová

Abstraktum

Diese Arbeit beschäftigt sich mit der Entwicklung der Ungleichheiten beim Zugang zur tertiären Bildung in der Tschechischen Republik nach dem Jahr 1989. Hauptausgangspunkt ist der Fakt, dass es nach der „samtenen Revolution" zu einem erheblichen Anwachsen der Nachfrage nach der Mittelschulbildung mit Abitur und nach dem Hochschulstudium kam und zwar auf Kosten der Lehrausbildungsfächer, ob mit oder ohne Abitur. Die Ausgangshypothese dieses Textes war die Behauptung, dass es nach 1989 in der Tschechischen Republik zu einer Zunahme der Bildungsungleichheiten kam, die durch eine unausgewogene Entwicklung im sekundären und tertiären Sektor des Schulwesens verursacht wurden. Es wurde auf die Feststellung von Gerber und Hout [1995] und Gerber [2000] zurückgegriffen, dass durch Überdruck an Bewerbern, zu dem es zwischen den zwei Bildungsebenen kommt, die Ungleichheiten beim Zugang zu Bildung zu Ungunsten der niedrigeren sozialen Schichten wachsen. Unter Nutzung der Methode der logistischen Regression wurde durch eine Unterteilung in drei Altersgruppen der Einfluss der sozialen Herkunft auf die Wahrscheinlichkeit eines erfolgreichen Übergangs vom Mittel- zum Hochschulwesen in den Jahren 1948-1999 modelliert. Die Hypothese vom wachsenden Einfluss der sozialen Herkunft auf den Erfolg beim Übergang von der Mittel- zur Hochschule in den neunziger Jahren konnte jedoch nicht bestätigt werden. Der Trend nach 1989 spricht im Gegenteil für einen Rückgang der Ungleichheiten beim Zugang zu Bildung. Während in den 70er und 80er Jahren die Bildungsungleichheiten entsprechend der Bildung des Vaters wuchsen, sanken sie in den 90er Jahren. Eine Erklärung für diese Feststellung wird in der Struktur der Abiturienten gesehen, die sich an der Hochschule bewerben.

Schlüsselwörter

Bildung, Bildungssystem, Übergang zwischen zwei Sektoren des Bildungssystems, Erfolg beim Übergang, familiäre Herkunft, soziale Herkunft, Zugang zu Bildung, Prozess der Erlangung von Bildung, Bildungsungleichheiten, Abitur (Abschluss der vollständigen mittleren Schulbildung), Expansion des Abiturs, Reform des Bildungssystems

1. Introduction

Education, occupation and income represent the three main dimensions of modern stratification systems. Individual societies differ from one another according to the way in which these socially valued assets are distributed [e.g. Treiman 1970]. One of the fundamental mechanisms through which an individual achieves his/her position in the social structure is through education. For this reason, in connection with inequalities in access to education, there also looms the issue of the distribution of education as capital, which brings its possessor profit in the form of a higher social status. Children coming from various social strata do have unequal chances for achieving the same level of education. These chances change in time and space – the openness of the educational system in various societies differs and evolves. For this reason, analysis of educational inequalities has long been and continues to be a strong and appealing challenge.

For forty years the social structure of Czech society was subjected to the re-distributive logic of state socialism, which was then abandoned after 1989. With the aid of a logistic model of attained levels of education [Mare 1981], the aim of this study is to show in what way and in what direction the unequal development of secondary and post-secondary education after 1989 influenced educational inequalities in the Czech Republic. The dominant hypothesis in this article is that the rapid growth in the number of secondary-school graduates with diplomas (so-called 'maturita' – a necessary condition for entrance to tertiary education), and therefore also potential applicants for study in the tertiary sector of the educational system, created pressure that led to the increase of inequalities in access to post-secondary education. Here I am drawing on the findings of Gerber and Hout [1995], i.e. that relative chances in inequalities are dependent among other things on the development of the educational system and that the pressure arising between individual levels of education puts the lower social strata in particular at a disadvantage, and I am applying this thesis to the case of the situation in the Czech Republic.

2. The theories of educational inequalities

The theoretical examination of the issue of educational inequalities was initiated by the advocates of modernisation theory [Blau, Duncan 1967; Featherman, Hauser 1979; Treiman 1970], who support the opinion that the influence of social origin on the level of education attained by a child in modern industrial societies declines over time. Conflict theory, or the theory of cultural reproduction [Collins 1971, 1979; Bourdieu 1973; De Graaf 1986], claims that this influence declines only during the initial transitions. According to the theory of the 'maximally maintained' inequality [Raftery, Hout 1993], the influence of social origin declines only in those transitions in which the demand has been saturated by privileged social strata. The hypothesis of socialist transformation [Matějů 1986, 1993], focusing on the development of educational inequalities in socialist states, refers to their initial reduction and subsequent growth. The theory of trajectory maintenance [Hanley, McKeever 1997] claims that inequalities in the allocation of education under socialism did not decrease, primarily owing to the ability of the members of the pre-communist elite to preserve and make use of their privileges during the period of communism.

2.1. Modernisation theory

The central argument of the **modernisation theory** is that the effects of social origin on the level of education attained are declining [Blau, Duncan 1967; Featherman, Hauser 1979; Treiman 1970]. In the spirit of the functionalist viewpoint [e.g. Davis, Moore 1945] this theory assumes that through changes in the distribution of the workforce the process of industrialisation led to a radical transformation of the social structure. With the growth in the demand for a qualified workforce access to education increased, too. The growth in educational opportunities, but above all the change in the principles behind the allocation of education, forced by a demand for the effective functioning of the social system, led to a decline in the influence of social origin on the level of education that a child attains.

The authors Blau and Duncan [1967] and Featherman and Hauser [1979] put the industrialisation (modernisation) theory to an empirical test. According to them, in the USA the degree to which education depends on social origin genuinely declined. They provide evidence of both the increasing average level of education (to the level of secondary school) and the decreasing educational inequalities, derived from the growing cumulative percentage distributions of completed education for individual age cohorts [Featherman, Hauser 1979]. In their conception the level of education is implicitly indicated through the number of accumulated years of formal education. By using the methods of path analysis and linear regression, where, for example, through a comparison of coefficients that express the influence of factors determining the level of education and a comparison of correlations between standardised variables (the level of father's education, his employment status, the respondent's education, the status of his/her first and current employment, household size, race, the number of siblings, etc.) for individual age cohorts, they discovered a decrease in the effect of ascriptive factors (of social origin). Thus according to the modernisation theory the higher the level of education that each country reaches, the more 'equal' its education system will be. But despite the improving socio-economic background of the family, according to Featherman and Hauser, inequality remains preserved in access to post-secondary schools, and does so as a result of the expenses related to study, which have grown beyond the means of the middle class.

The use of a linear regression model for determining the highest level of education attained, and the lack of knowledge about the concept of relative chance in access to education are the main limitations in the work of Blau and Duncan [1967] and Featherman and Hauser [1979]. These criticisms are dealt with in more detail below, in the methodological section of this paper.

2.2. Conflict theory

The **conflict theory** (the theory of cultural reproduction) disputes the modernisation theory. It claims that education serves as a tool of higher social groups for maintaining the privileges of dominance and excludes members of lower social groups from rewarding and much sought after positions in the social structure [Collins 1971, 1979; Bourdieu 1973]. The transmission of cultural – not financial – resources is the primary determinant in the level of education attained. The maintenance of privileges of the higher strata does not take place on the level of primary education and a certain type of secondary education (thanks to their progressive democratisation), but mainly on the level of higher degrees of qualification in education. The effect of social origin thus decreases only in the initial transitions and not in the later ones.

De Graaf [1986] applied this theory in his attempt to separate the economic and the cultural components of social origin from one another, and analysed both the influence of financial and cultural resources on the level of education attained by children. De Graaf derived two hypotheses from the initial assumptions of the conflict theory. The first hypothesis claims that the degree to which the influence of the socio-economic characteristics of the parents on the level of attained education of the children can be explained through the distribution of financial resources decreases over time. The second hypothesis claims that the degree to which the influence of the socio-economic characteristics of the parents on the level of achieved education of the children can be explained through the distribution of cultural resources increases over time. De Graaf tested both hypotheses on two age cohorts in the Netherlands separated by the year 1950, noting that it was from this year that the local school system became essentially free of charge. He measured the influence of the family background on the attained level of education of the two oldest siblings, and was able to confirm the validity of the first hypothesis, but not the second. According to Graaf this means that the connection between social origin and the level of attained education can no longer be ascribed to the distribution of financial sources. At the same time, however, the direct effect of social origin remains unchanged, i.e. the inter-generational reproduction of education remains stable.

2.3. Hypothesis of maximally maintained inequality

Using Irish data, Raftery and Hout, advocates of a somewhat stronger (less moderate) version of the theory of cultural reproduction, developed the concept of '**maximally maintained' inequalities** in educational opportunities. Given the fact that higher social groups want to maintain their dominant position in society, in the authors' view, the effect of social origin does not change on any of the levels of education. It changes only in a situation in which at a given level of the educational system the recruitment of children from, in terms of status, advantaged social groups is so high that the further expansion of the educational system comes to encompass even those children who are from lower social groups. Consequently the probability of low-status children to make the transition successfully actually increases. But before the demand of socially advantaged groups for a certain degree of education comes into balance with the availability of corresponding openings for study, these groups push to increase the capacity of this level of education in the system to take in students through an increase in available openings, by removing tuition fees, lowering entry requirements etc. At the same time, up until this point the expansion of the system does not lead to better chances for children from disadvantaged groups, so the relationship between social origin and the given educational transition does not change either.

Using the specific example of Ireland, in the period between 1921 and 1975, Raftery and Hout [1993] show that only when the demand of socially advantaged groups for a certain level of education is satiated, i.e. when their success in the corresponding transition approaches 100%, and at the same time the educational system continues to expand, does the influence of social origin on this transition decline, i.e. the odds ratios lower. Without an increase in the availability of openings for study, the redistribution of educational opportunities among the social strata will not occur. Only the expansion of the educational system leads to an increase in the educational opportunities of disadvantaged social groups, and does so mainly through softening the selection criteria (in such a way so as to accommodate the largest possible number of students), rather than through a redefinition of selection.

While in Ireland a reduction of overall class differences in the process of attaining education did occur, the class barriers were not removed. They only became less causal, because the educational system had reached the point where it could afford to be less selective.

Gerber and Hout [1995] reached a similar conclusion while using Russian data. The unequal development of secondary and post-secondary education during the Soviet period in Russia led to strong pressure of applicants for entry into the tertiary level of education, which primarily disadvantaged the lower social strata. Overall in Russia the differences in the likelihood of attaining a post-secondary education, caused by social origin, did not change through three post-war cohorts, even despite their aims towards egalitarianism.

2.4. Socialist transformation hypothesis

The **hypothesis of socialist transformation** claims that after an initial reduction of the influence of the effects of social origin, brought about by the introduction of quotas, they then increased again in the socialist states. As soon as the new elite secured its privileges and took control of the educational system, they tried to adopt certain measures that would ensure educational advantages for their own children. For this reason there occurred an increase in the influence of social origin in the later years of the socialist regimes [e.g. Matějů 1986, 1993]. However, Hanley [2001], an opponent of this theory, ascribes the initial reduction in the influence of social origin to the rapid expansion of the educational system, and not to quota intervention in admissions into secondary and post-secondary schools. Also, he considers the decline in educational inequalities after 1948 on the level of secondary school to be a consequence of this expansion. He considers selection on the basis of political criteria to be clear only after 1968. But Kreidl [2001] has shown that quotas demonstrably decreased the influence of the employment of parents on the rate of success in the transitions even before 1968, both at upper secondary vocational schools (in the years 1948–1953, and then again in the years 1969–1974), and at upper secondary technical schools (in the years 1948–1953, and again in the years 1970–1974).

2.5. Theory of trajectory maintenance

Another theory that refers specifically to socialist countries is the **theory of trajectory maintenance**, which claims that it was the members of the pre-communist elites themselves (especially two large groups: administrative cadres/bureaucracy and professionals/professional elites) who were able to maintain their privileged position and successfully make use of it even under the newly set up regime in order to ensure adequate education for their children. They achieved this aim by making use of their social and cultural capital. For this reason, inequalities in the allocation of education did not decline [Hanley, McKeever 1997]. In essence, this theory is a matter of applying the theory of cultural reproduction to socialist states. According to Hanley and McKeever, socialist Hungary passed through this very type of development, which arose primarily out of an unjust distribution of cultural (rather than social) capital. Wong [1998] speaks of a complex of different types of capital, which individual families have at their disposal and which they employ, in varied proportion and according to circumstances, in order to attain the desired education for their offspring. In the example of Czechoslovakia, Wong shows that social capital, operationalised like membership in the communist party, took on an important role as a mediator of intergenerational inequalities.

3. Reform of the educational system

The subject of the reform of the educational system is primarily attractive owing to its egalitarian rhetoric, whether in the explicitly meritocratic or egalitarian sense. The question of whether or not it is at all possible to achieve a positive effect through reforms to the educational system remains unanswered. The possibilities that state institutions have to reduce inequalities in the allocation of education are most frequently studied in the examples of the former socialist societies. However, both theories related to the evolution of educational inequalities in socialist countries wish to say the same thing: the socialist regimes did not fulfill their proclamation that educational inequalities would be removed; their level remained essentially the same.

Individual studies show that egalitarian reforms did not lead to a reduction of the influence of social origin on any of the educational transitions. Paradoxically, the decrease in status inequalities in access to education occurred only in the lower and middle transitions in the politically 'Western' countries of the Netherlands and Sweden [Shavit, Blossfeld 1993]. Dronkers [1993] focused on whether reform of the educational system in the Netherlands decreased the influence of the employment and education of parents to the advantage of principles of merit. He reached the conclusion that even despite the significant relative growth in the number of those who passed through the transitions (changes in the distribution of education), the effects of the employment status and education of parents on these increased proportions did not change (principles of allocation remained the same). However, according to Dronkers, more equal access to education did occur indirectly, and not by means of a decrease in the influence of employment and education of the parents, as has already been stated, but through an increase in the possibilities to study longer and at higher levels in the Dutch educational system.

Simkus and Andorka [1982] carried out an analysis of the development of the Hungarian educational system in the period of 1923–1973, and described the institutional changes and the expansion of the educational system on all levels. They discovered that Hungary passed through a type of development opposite to that of the USA, and that a decline in the influence of social origin on earlier transitions did indeed occur, but the influence on later transitions remained stable. They ascribed this result to the educational policy of the 1950s, aimed at improving educational opportunities for the lower classes. Just as in the former Czechoslovakia at that time, here also a decline in class inequalities in educational opportunities at the lower levels of education occurred, but no change occurred at the higher levels.

Gerber and Hout [1995], who researched development of education in Russia, uncovered a persistent level of inequality in attaining education, the source of which was the education of the parents, the employment of the breadwinner in the family, and geographic origin, and this remained so despite official reformist efforts. There occurred a similar development as in the other countries: the considerable expansion of the secondary sector of educational system ran up against the insufficient capacity of the tertiary sector. Amidst an excess pressure of applicants, those applicants who came from socially advantaged groups had greater success, and their chances increased further after 1965, when Khrushchev's reforms were abandoned. The resultant effect was zero change in inequalities caused by social origin upon entry into the tertiary sector. Development in post-Soviet Russia put low-status students at an even greater disadvantage in access to academically oriented secondary schools (i.e. the theory of maximum maintenance of inequalities was confirmed), while according to most recent data the situation at entry into post-secondary school is ambiguous [Gerber 2000].

A historically unique example of the radical decline in the influence of the father's socio-economic status on the level of education attained by the son is that of socialist China following the reforms introduced during the 'cultural revolution' in 1966–1976 [Deng, Treiman 1997]. Massive state intervention established a highly egalitarian approach to education by means of the elimination of the advantages related to family origin (education, property, position); of course, only for a relatively short period.

This article, focusing on the evolution of educational inequalities in the post-revolution Czech Republic, is inspired by the above-mentioned conclusions reached by Gerber and Hout. From the rapid expansion of complete secondary education and at the same time the insufficient development of the tertiary sector it is possible to deduce the growth of educational inequalities in the transition between these two levels of education.
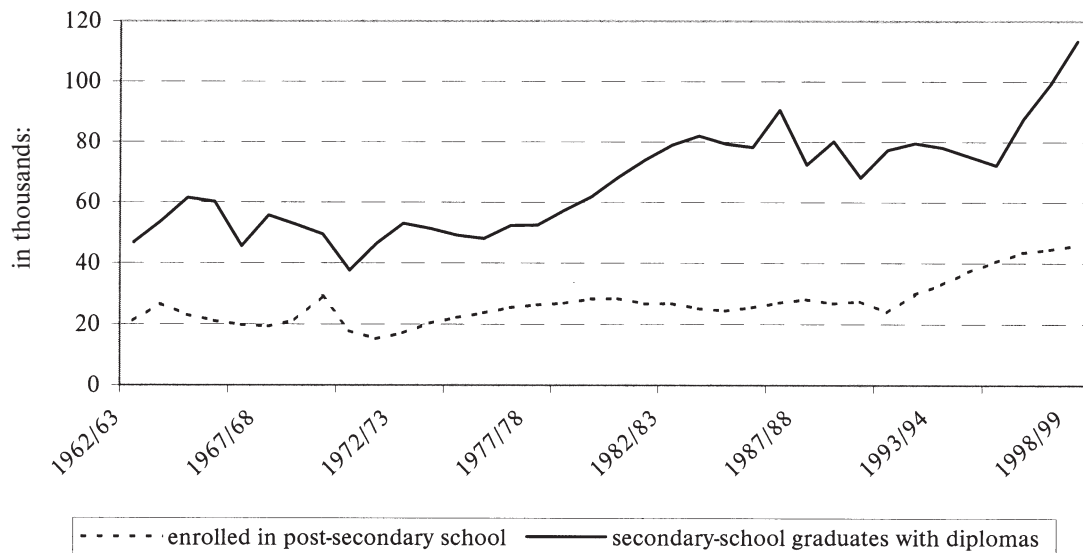
4. Development in the Czech Lands

According to Matějů [1990], the dominant trend in the Czech Lands was a gradual reduction of the tempo of the development of educational opportunities through which it was possible to acquire a secondary-school diploma and post-secondary education. This in turn gradually gave way to a decline in the proportion of those who were able to attain it. The outcome has thus become the low representation of people with complete secondary and post-secondary education. As a result of the ideologically conditioned re-distributive logic (e.g. the quota system for allocating study openings) there also gradually occurred a decline in the quality of the educational system, and indirectly also a decline in the prestige of education and a low level of compensation for having attained an education [Matějů 1991]. With the stagnation of overall educational mobility, the proportion of those who were downwardly mobile grew, i.e. the proportion of upwardly mobile fell [Matějů 1986]. On the whole, significant changes in educational inequalities did not take place during socialism [Matějů 1991]. The authors are in agreement that the decline in educational inequalities occurred on the level of secondary school, but on the level of higher education they remained without change [Boguszak, Matějů, Peschar 1990; Hanley 2001; Matějů 1993].

Graph 1 illustrates the development of the number of secondary-school graduates (with diplomas) and the number of enrolled students in post-secondary schools in the years 1962/63 to 1998/99. The figures encompass both the form of full-time study and study while employed, as the latter in no way constituted a negligible component of the overall number of students in secondary and post-secondary education. An interesting discussion on this question took place between Boguszak, Gabal and Matějů [1990], and Machonin and Petrusek [1991]. It is clear from graph 1 how much the tertiary sector of education has lagged behind the secondary sector. Graph 2 then shows the relationship of these two sectors of education.

Graphs 3 and 4 in comparison with graphs 1 and 2 (encompassing both the form of full-time study and study while employed), illustrate the same trend of the tertiary sector of education lagging behind the secondary sector, but encompass only the form of full-time study. Graph 3 shows the development of the number of secondary-school graduates (with diplomas) and the number of enrolled students in post-secondary schools in the years 1957/58 to 1998/99. Graph 4 then shows the relationship of these two levels of education. During the time after the 'velvet revolution' in the case of full-time study there was a trend of increasing likelihood of success in admission of an applicant to post-secondary school

Graph 1: Trends in the number of the secondary-school graduates and those enrolled in post-secondary school in the years 1962/63 and 1998/99 (regular and external study while employed)

Sources: Vývojová ročenka školství v České republice 1989/90–1998/99 [Yearbook of Education in the Czech Republic 1989/90–1998/99]. 1999. Praha: ÚIV.
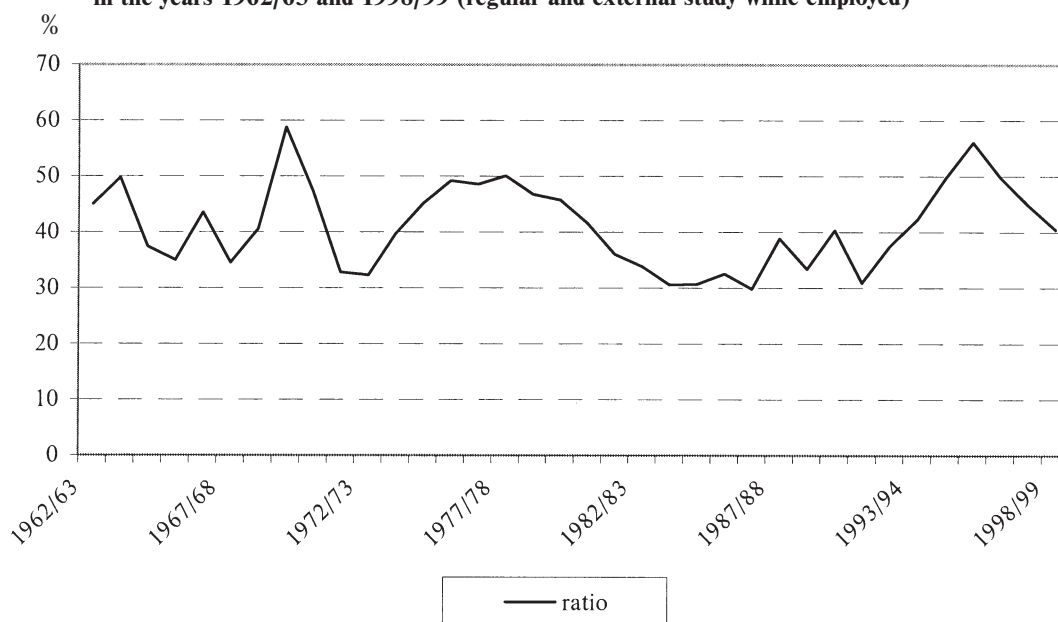
Statistiky školství z let 1962 až 1989 [Education Statistics from the Years 1962 to 1989]. Praha: Ústav školských informací [Institute of Information on Education].

Historická ročenka školství v České republice 1953/54–1997/98 [Historical Yearbook of Education in the Czech Republic 1953/54–1997/98]. 1998. Praha: ÚIV.

until 1996/97 and decreasing from 1997/98 at a level lower than that in 1994 (graphs 3 and 4).

After 1948 the Czech educational system underwent several changes. In the first place, tuition fees and private schools as such were abolished. Primary education was introduced as unified, but could differ in terms of the orientation of study in the fields of natural sciences or the humanities. After eight or nine years of compulsory school attendance (including primary and lower secondary education), upper secondary-school study followed (if the individual chose to pursue it), and took the form of either study terminated with a secondary-school diploma or without it. A secondary-school diploma, i.e.'maturita', could at first only be gained at upper secondary academic schools or diploma study at upper secondary technical schools, and later also in upper secondary vocational disciplines with a diploma, which emerged at the beginning of the 1970s. Political criteria, and their weight in acceptance procedures into individual types of schools have formed the subject of academic discussion. Matějů [1993] claims that they were applied at academic upper secondary schools which were potential entry gates into post-secondary schools, and not at vocational or technical upper secondary schools. On the other hand, Kreidl [2001] reached an entirely opposite conclusion: quota discrimination had an impact on the decrease of socio-economic inequalities in access to vocational and technical education, but did not have an impact on status differences in access to academic upper secondary schools.

Eight-year secondary grammar (academic) schools were abolished, and study was unified at four-years. Upper secondary technical schools offered instruction in both technical, artistic (conservatories), health etc. disciplines. The majority of diploma-holding graduates

Graph 2: Ratios of the number of secondary-school graduates and those enrolled in post-secondary school in the years 1962/63 and 1998/99 (regular and external study while employed)

Sources: Vývojová ročenka školství v České republice 1989/90–1998/99 [Yearbook of Education in the Czech Republic 1989/90–1998/99]. 1999. Praha: ÚIV.
Statistiky školství z let 1962 až 1989 [Education Statistics from the Years 1962 to 1989]. Praha: Ústav školských informací [Institute of Information on Education].
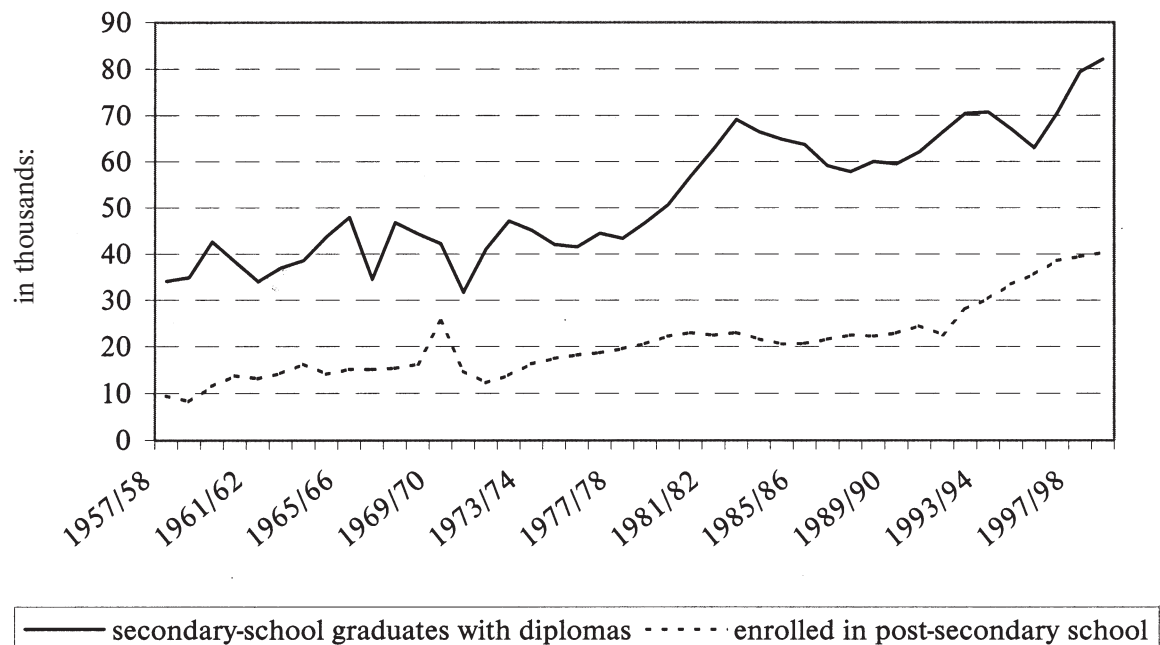Historická ročenka školství v České republice 1953/54–1997/98 [Historical Yearbook of Education in the Czech Republic 1953/54–1997/98]. 1998. Praha: ÚIV.

were produced by these schools. In 1975, compulsory ten-year school attendance was introduced, which implied compulsory study at a upper secondary school. At the end of the 1980s, 96% of students were successful in the transition into upper secondary school, which essentially meant a satisfied demand for this education [Kreidl 2001]. However, this of course did not signify a solution to the problem of the structure of upper secondary education and the demand for a certain type of secondary school (e.g. academic secondary schools). A relatively frequent trajectory was study at a second secondary school, Kreidl speaks of about 10% [2001]. Entry into post-secondary school was limited on the one hand by criteria unrelated to performance, applied during admission procedures (e.g. social origin, political opinions), and on the other hand by the number of applications that a student could submit (essentially it was possible to submit only one application).

After 1989, several reforms to the education system were once again carried out. Eight-year academic secondary grammar schools were introduced again, to which at present applicants have the lowest chances of acceptance throughout the entire framework of the educational system (the rate of success is around 45%). The private sector became involved in upper secondary education; upper secondary technical and academic schools began to develop the most. The structure of secondary education was changed through the considerable increase in disciplines granting diplomas, and interest in disciplines without diplomas and vocational disciplines declined. As a result of this trend the number of diploma-holding graduates has grown, and thus also the number of applicants to study at post-secondary schools. In 1992/93 so-called higher professional schools were set up experimentally, which were then established through an amendment to the education law in 1995. This relates to a sort of

Graph 3: Trends in the number of secondary-school graduates and those enrolled in post-secondary school in the years 1957/58 and 1998/99 (only regular study)

Sources: Vývojová ročenka školství v České republice 1989/90–1998/99 [Yearbook of Education in the Czech Republic 1989/90–1998/99]. 1999. Praha: ÚIV.

Statistiky školství z let 1962 až 1989 [Education Statistics from the Years 1962 to 1989]. Praha: Ústav školských informací [Institute of Information on Education].
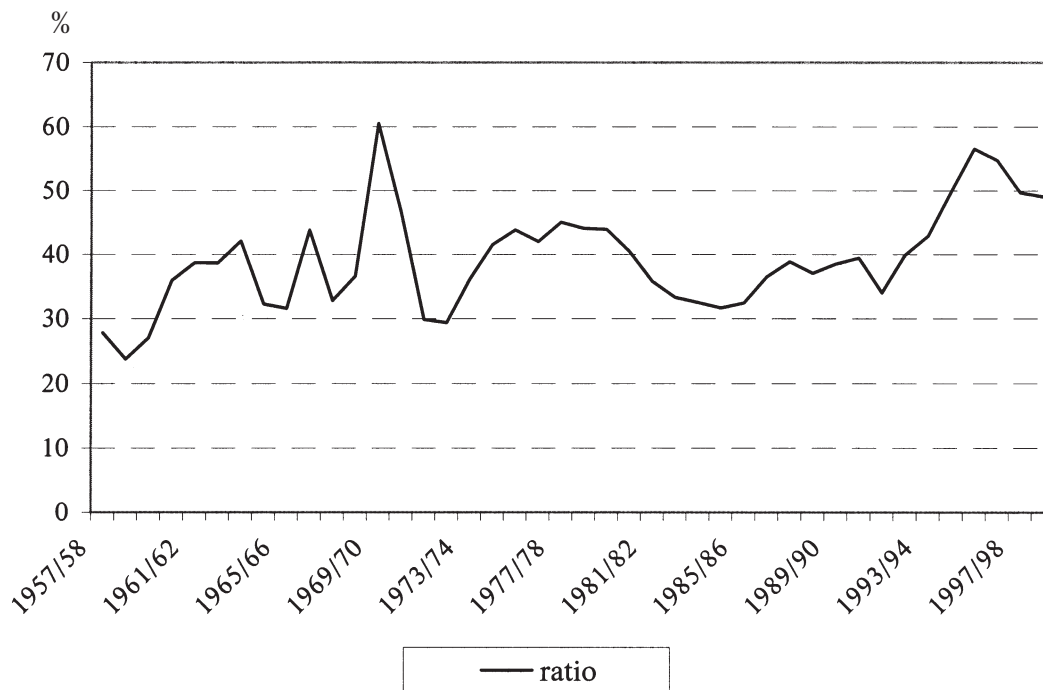
Historická ročenka školství v České republice 1953/54–1997/98 [Historical Yearbook of Education in the Czech Republic 1953/54–1997/98]. 1998. Praha: ÚIV.

intermediate step between secondary and post-secondary school, which is financed by paying tuition. Whether this type of education is to be classified in the secondary or tertiary sector of education is then a question for discussion.

This paper stems from the assumption that the disharmony between the development of secondary and tertiary education, which in terms of capacity has been unable to keep pace with the growing number of applicants for study, was caused by the considerable pressure in the transition between the two cited levels of education. The hypothesis that this analysis is attempting to verify assumes that the unequal development in the Czech educational system after 1989 has an influence on the development of educational inequalities in the Czech Republic. It is possible to assume that the development of education after 1989 has contributed to the deepening of educational inequalities, i.e. due to the considerable pressure the influence of social origin on the success of a student in the transition to post-secondary school increases. Social (family) origin is in this analysis presented on the one hand through the influence of the father's education on the educational career of the child, and on the other hand through the father's socio-economic status (ISEI) and the respondent's sex.

The aim of this work is to show that in the Czech educational system this kind of excess demand in the number of applicants for study at post-secondary school (or in the tertiary sector) has occurred, which has deepened the influence of the socio-economic and educational background of the family on the attained education of the respondent. This is shown

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Graph 4: Ratios of the number of secondary-school graduates and those enrolled in post-secondary school in the years 1957/58 and 1998/99 (only regular study)

Sources: Vývojová ročenka školství v České republice 1989/90–1998/99 [Yearbook of Education in the Czech Republic 1989/90–1998/99]. 1999. Praha: ÚIV.
Statistiky školství z let 1962 až 1989 [Education Statistics from the Years 1962 to 1989]. Praha: Ústav školských informací [Institute of Information on Education].
Historická ročenka školství v České republice 1953/54–1997/98 [Historical Yearbook of Education in the Czech Republic 1953/54–1997/98]. 1998. Praha: ÚIV.

Graph 5: Ratios of the number of those accepted and the number of those applying to post-secondary school
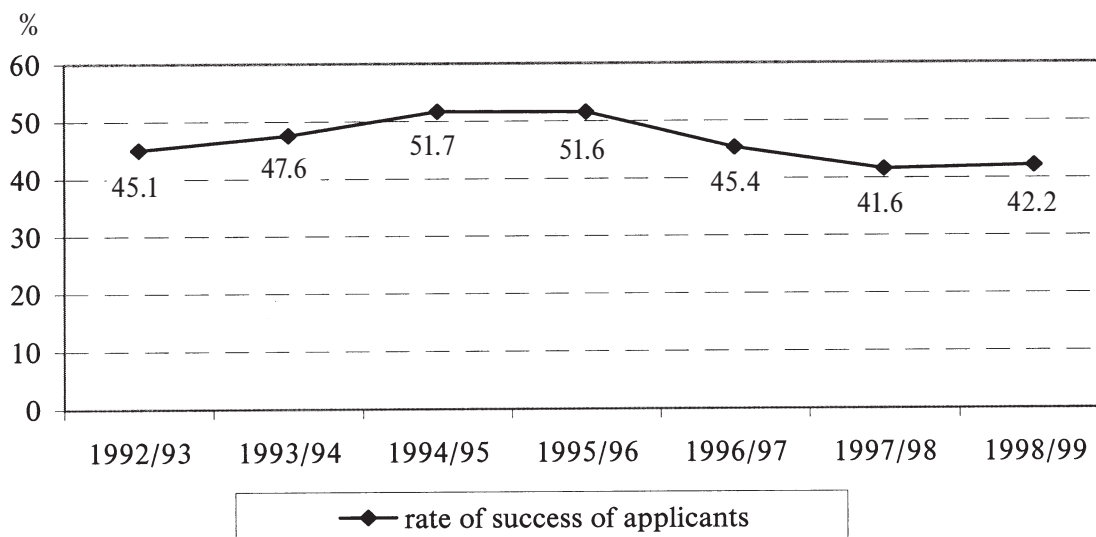
Source: Vývojová ročenka školství v České republice 1989/90–1998/99 [Yearbook of Education in the Czech Republic 1989/90–1998/99]. 1999. Praha: ÚIV.

in graph 5, with an illustration of the relationship between the number of applicants for study at post-secondary schools and the number of accepted students. While in the 1992/93 academic year the likelihood of admission to post-secondary school was 45%, after it increased to 52% in the middle of the 1990s, it began again to decline, and fell to an even lower level than in 1992/93, i.e. to 42% in 1998/99.

5. Data and variables

The analysis was carried out on a large data sample, which was compiled through a combination of data from six research surveys conducted by the Institute of Sociology of the Academy of Sciences of the Czech Republic. Almost one-half of the respondents were drawn from an extensive project entitled Ten Years of Transformation in Society, dating from 1999. Four databases were acquired within the framework of the ISSP project (International Social Survey Programme) from the years 1995 (National Identity), 1996 (The Role of Government), 1997 (Work Orientation), and 1999 (Social Inequality and Justice), and one that was conducted within the framework of the ISJP project (International Social Justice Programme) in 1995 (Social Justice). Through a combination of these data samples a new sample emerged, comprised of 11 098 cases. For further analysis, those respondents who had attained less than complete secondary education (less than 'maturita') were excluded, and the entire data base thus decreased to 5 637 potential applicants for study at a post-secondary school. As a result of the relatively incomparable nature of the design of the weights in the partial samples, the resulting data sample was not weighted.

This work is aimed at an analysis of the educational inequalities in the transition from secondary (completed secondary school) to tertiary (post-secondary school, or higher professional school) education. The category of tertiary includes post-secondary and in some surveys also higher professional schools. Different coding schemes for higher professional schools in different surveys (either in secondary or post-secondary) caused problems in classifications used in analyses based on combined data sample. However, out of the overall number of respondents the number of cases connected with higher professional education was relatively low. In practical terms it would of course be optimal to separate both segments of tertiary education in the analysis and to also model the contrast between the choice post-secondary and higher professional schools. Given the nature of the entry data however this distinction cannot be made.

The variables used in the analysis appeared in all of the original data samples. Respondent's education was coded into three categories: education without a diploma with value '1'; education with a diploma with value '2'; and post-secondary education with value '3' (this includes graduates of higher professional schools). The dependent (explained) variable was construed in such a way that it expresses whether the respondent successfully passed or did not pass through the transition between secondary and post-secondary education (0 = SE, 1 = P-SE). The social origin of the respondent was indicated through the father's education and his socio-economic status when the respondent was aged 14 (or 15 or 16)*. Owing to the changes in the educational system, the father's education was expressed in years of schooling and the missing values (in total 172 cases) were substituted with the mean of this value for the

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* This disunity that stems from the period in which the socio-economic status of the father was determined resulted from the process of combining the data samples, which used different ages for the respondents, i.e. 14, 15, and 16 years.

Table I: Distribution of the independent variable 'Cohort'

Cohort	Year of birth	Year of entry into post-secondary school	No. of cases (n)	Percent
1	1930–1951	1948–1969	1897	35.9
2	1952–1971	1970–1989	2282	43.2
3	1972–1981	1990–1999	1109	21.0
Total			5288	100.0

entire data sample. Socio-economic status was determined through the ISEI value (International Socio-economic Employment Index), and the missing values (672) were also substituted with the mean. Given the substitution of means I added an identification variable for missing values, in which the originally missing variables were given the value of '1', and the other values '0'. These variables for father's education and for his ISEI were further used in the analysis for the purpose of the identification of missing variables. Respondent's sex acquired the value of '0' for women and '1' for men. (See appendix for definition and distribution of the variables.)

Because this study is founded on the hypothesis of excess pressure between secondary and post-secondary education, success in the transition between these two levels of education will be examined. Transition is thus defined as the transition between secondary education with a secondary-school diploma and post-secondary education. For the purposes of the analysis three cohorts (table I) were established, of which the first two potentially continued on to post-secondary school in the socialist system of education, and the third did so after 1989. Thus those respondents who were born before 1930 (322 respondents) and 17 respondents who did not enter the date of their birth were ruled out of the analysis. There remained then 5288 cases entering into the analysis.

6. Analysis

The methodological background of this work is Mare's concept of educational inequalities. Mare [1981] clarified the source of conflicting claims about the direction of the evolution of educational inequalities. He pointed out that various sociological studies dealing with educational inequalities reach, in connection with their statistical models, different and at times even opposing conclusions regarding the influence of social origin on attained education. At the same time he described how linear models of calculating two opposing trends distort the description of the level of inequalities.

When referring to educational inequalities Mare places emphasis on distinguishing between two concepts of inequalities in education. The first is distribution of formal education. The second is the 'allocation' of education, i.e. the degree to which some socio-demographic groups come to attain a greater amount of education than others (this relates to relative inequality in access to education). For analysis of the allocation of education Mare proposes a logistic model of determination of continuation in education under the assumption that the previous stage of study has been completed. Dividing up the education process into stages separated by transitions enables an analysis of trends in the allocation of education which is not influenced by the overall distribution of education. Mare's transition model is

Table II: Distribution of the dependent variable among cohorts

Cohort	Successful in the transition	Unsuccessful in the transition	Total
1930–1951	667 (35.2%)	1230 (64.8%)	1897 (100.0%)
1952–1971	808 (35.2%)	1474 (64.6%)	2282 (100.0%)
1972–1981	395 (35.4%)	714 (64.4%)	1109 (100.0%)
Total	1870 (35.6%)	3418 (64.6%)	5288 (100.0%)

today considered to be the standard for researching educational inequalities [Shavit, Bloss-feld 1993).

Through a re-analysis of educational inequalities in the USA Mare [1981] arrived at the opposite conclusion of Blau and Duncan [1967] and Featherman and Hauser [1979]. According to Mare's observations the inequality of chances for attaining a certain level of education in the United States became deeper and the influence of social origin did not fall over time. At the same time the higher an individual worked his/her way up through the educational system, the less his/her social origin had an influence on the likelihood of success in the transition.

This paper is based on the hypothesis that Gerber and Hout [1995] and Gerber [2000] empirically tested on their data, wherein they described the results caused by the pressure of applicants for study at post-secondary school in Soviet and post-Soviet Russia. I also am working from the assumption of this kind of development in the Czech educational system, and thus I am examining the dominant hypothesis about the pressure of applicants for entry into the tertiary sector in the 1990s. I am thus expanding the analysis of the evolution of inequalities in access to education higher than the secondary level in the Czech Republic in the 1990s.

Given that from the statistical viewpoint this study is concerned with an estimation of the odds that the observed phenomenon, i.e. the successful transition to post-secondary school, did or did not occur, and at the same time is concerned with determining variables that have the capacity to provide information for predicting the probability of this phenomenon, I have chosen the method of logistic regression. The dependent variable is the dichotomous variable of success in the transition to post-secondary school, acquiring the value of '1' in the case of a successful transition and '0' in the case of an unsuccessful transition. The distribution of the education of the respondent is illustrated in table II.

The independent variables are continuous (father's education , father's ISEI, respondent's sex, indicators of missing values of father's education and his employment) and categorised (cohort). In the analysis the ordinal variable indicating three cohorts was replaced with two dichotomous variables designating the contrast between the middle cohort (born in the years 1952–1971) and oldest cohort (born in the years 1930–1951) and between the youngest (born in the years 1972–1981) and middle cohort. For solving the problem at hand it was considered useful to compare the age cohorts over time, i.e. to trace the evolution of the dependent variable in each case. For this reason the second and first cohorts were compared and the third and second ones were compared. The basic descriptive statistics of the independent variables used in the analysis are presented in table III.

The analysis was based on several models of logistic regression, encompassing the interaction among the independent variables, with the aim of finding the best possible model for describing the relationship between the explained variable (success in the transition) and

Table III: Values of means and standard deviations of independent variables in the analysis, N = 5637

	Mean	Standard deviation
Father's education in years	11.03	2.44
Father's education missing	0.04	0.20
Father's ISEI	38.67	14.24
Father's ISEI missing	0.13	0.34
Respondent's sex (share of men)	0.46	0.50
Respondent's age in years	45.68	16.46

See appendix for individual variables' value coding.

the selected explanatory variables. The main hypothesis was formulated as follows: the effect of social origin (the educational and employment status of the father) on success in the transition between secondary and post-secondary school increased between cohorts (i.e. from one cohort to the next, from the oldest age group to the youngest).

The likelihood of success in the transition to post-secondary school was modeled with the aid of five logistic regression equations, of which the first contained only the main effects, and then in the next models the significance of the interaction between individual variables and the cohort was tested. A comparison of the individual models was carried out in accordance with the rules of statistical inference on the basis of the statistic L^2 (maximum likelihood Chi-square) and the relevant degrees of freedom. In the evaluation of individual models it is possible to also take account of the statistic –2LL (–2 log likelihood) and the classification table. In the case of statistic L^2 the higher the value it acquires the better the informational capacity of the given model. For statistic –2LL (also with the distribution X^2) the reverse is true: the higher the value it acquires the lower the informational capacity of the given model is. The sum of cases on the main diagonal of the classification table shows how many cases were classified correctly by the model. Nagelkerk's R^2 was used as an analogy of criterion R^2, which in the linear regression expresses the ratio of variability explained by the model. If we multiply Nagelkerk's R^2 by one hundred, we arrive at the percentage of 'variability' for the dependent variable 'success in the transition', which is explained by the independent variables selected for the given model.

7. Results of the analysis

The results of the analysis of the influence of social origin on the success in the transition are presented in tables IV, V, and VI. The first model contains all seven explanatory variables (father's education, father's ISEI, applicant's sex, cohort (1), cohort (2), the indicator of missing values of father's education, the indicator of missing values of father's occupation), but without any interaction between them. The second model also contains, in addition to the above-mentioned variables, the interaction between father's education and the cohort. The third model includes in addition to the independent variables the interaction between father's ISEI and the cohort. The forth model tested the influence of the interaction between the cohort and applicant's sex. Finally, the last model includes both interactions with the demonstrated effect – the interaction between the cohort and education, and the interaction between sex and the cohort.

Table IV: Statistics of the quality of the models of the transitions from secondary to post-secondary school
Czech Republic 1948–1999, N = 5288

	L^2	Df	p-value	–2LL	% of correctly classified cases	R^2
Model 1	421.39	7	0.000	6449.47	68.3	0.105
Model 2	428.30	9	0.000	6442.56	68.5	0.107
Model 3	425.62	9	0.000	6445.24	68.3	0.106
Model 4	434.49	9	0.000	6436.37	68.4	0.108
Model 5	440.65	11	0.000	6430.21	68.6	0.110

All the effects in model 1 (with L^2 = 421.39 and df = 7) (see table E in the Appendix) were statistically significant (except the indicators of missing values), which means that they all contributed to an explanation of the variability of the dependent variable 'success in the transition'. The variable of father's education had a positive influence on the success of the respondent in the transition, as did father's ISEI. The sex variable expressed a positive influence in the case of men. In the second model (with the value L^2 = 428.30 and df = 9) (see table F in the Appendix) the variable cohort (1) was significant only in the interaction with father's education. The effect of father's education on the likelihood of success in the transition changed over time in the direction of its increase in the second cohort, i.e. among applicants applying to post-secondary school in the years 1970–1989. In the third cohort this effect then decreased. The third model (with the values L^2 = 425.62 and df = 9) (see table G in the Appendix) indicated a stable inter-cohort influence of the socio-economic status of the father on the likelihood of success in the transition. The fourth model (with L^2 = 434.49 and df = 9) (see table H in the Appendix) revealed the changing influence of sex over time, in the sense of its inter-cohort decline and increase. Finally, the fifth model (with L^2 = 440.65 and df = 11) included all of the trends tested above.

All of the models proved satisfactory and described data with acceptable precision. In all the models it was demonstrated that knowledge of the independent variables enabled a better prediction of the explained variable. However, the models did not entirely concur with one another, and it was necessary to make statistical selections among them. From the perspective of all of the assessed statistical criteria, the fifth model proved to be the most suitable. Of course as a result of the fact that I incorporated other variables (interaction between variables) into the basic model, the statistical significance of some of the original variables declined. According to the classification table (table VII), 69% of the cases were classified

Table V: Contrasts between the models of the transitions from secondary to post-secondary school
Czech Republic 1948–1999, N = 5288

	L^2	Df	p-value
Contrasts:			
2 – 1	6.91	2	0.032
3 – 1	4.23	2	0.121
4 – 1	13.1	2	0.001
5 – 1	19.26	4	0.001
5 – 2	12.35	2	0.020
5 – 4	6.16	2	0.046

Table VI: Effects of the preferred model of the transitions from secondary to post-secondary school Czech Republic 1948–1999, N = 5288

	B	S. E.	p-value	Exp (B)
Father's education in years	0.154	0.016	0.000	1.166
Father's ISEI	0.014	0.003	0.000	1.014
Respondent's sex(male = 1, female = 0)	0.463	0.063	0.000	1.589
Cohort (1)	0.615	0.415	0.138	1.851
Cohort (2)	−0.597	0.353	0.090	0.550
Cohort (1)* Respondent's sex	0.120	0.160	0.452	1.128
Cohort (2)* Respondent's sex	−0.472	0.137	0.001	0.624
Cohort (1)* Father's education	−0.065	0.031	0.035	0.937
Cohort (2)* Father's education	0.057	0.028	0.043	1.059
Constant	−3.338	0.164	0.000	

correctly, which indicates that the predication of the dependent variable would not be entirely satisfactory. More precisely, it showed that the model would better predict cases of failure in the transition (i.e. those respondents who did not go to post-secondary school).

The fact that all of the models used were good and had on the whole demonstrated a good informational capacity was also confirmed by the Hosmer-Lemeshow statistic with the value Chi-square 15.34 for all eight degrees of freedom and a level of significance at 0.053 for the basic (first) model and 14.13 for the eight degrees of freedom and significance at 0.078 for the most complex (fifth) model. This 'goodness of fit test' revealed that among the observed and expected frequencies there is no difference found in any of the models.

The main trends observed through the statistical comparison of the models (table V) did not confirm the initial hypothesis that the effect of social origin (the educational and employment status of the father) on success in the transition between secondary and post-secondary school increased between cohorts. With respect to education this hypothesis proves true only in the case of the oldest and middle cohort, between which an increase in the influence of father's education on the odds associated with a given transition actually occurred. While in the case of the middle cohort in comparison with the oldest cohort with each additional year of education the father had attained (while checking all other variables) the odds that the applicant would make the educational transition from secondary to post-

Table VII: Classification table for Model 5

	Predicted frequencies		
	Successful in the transition = 1	Unsuccessful in the transition = 0	Percentage correct
Observed frequencies			
Successful in the transition = 1	523	1347	28.0 %
Unsuccessful in the transition = 0	315	3103	90.8 %
Overall percentage			68.6 %

Graph 6: Success in transition to post-secondary school

Graf 7: The evolution of exp (B) values of independent variables through the cohorts
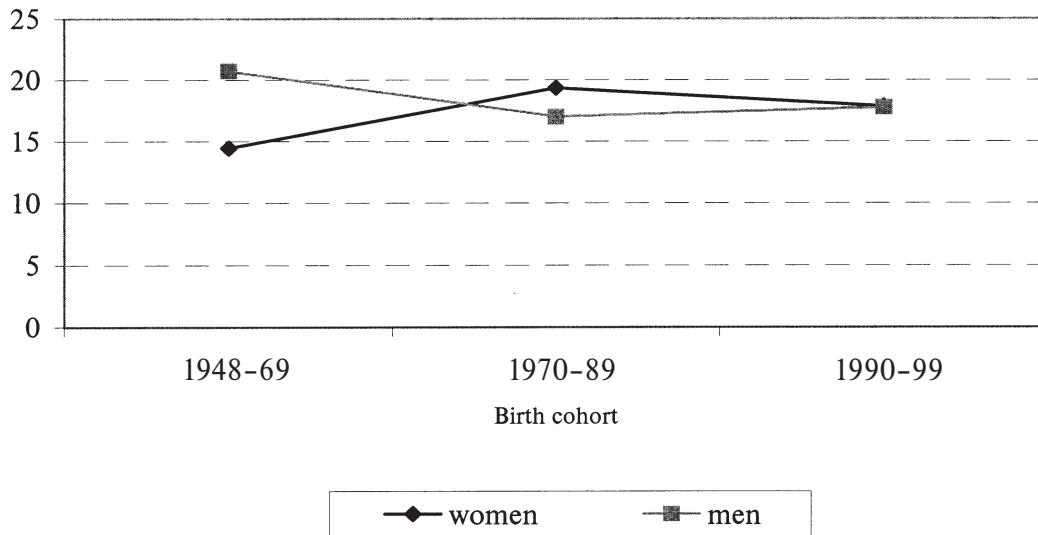
secondary school increased 1.059 times, in the youngest cohort in comparison with the middle cohort each additional year of the father's education increased the odds by 0.937 times (table VI). This means that for the youngest cohort, entering post-secondary school in the years 1990–1999, the influence of the father's education decreased.

In the case of the socio-economic status of the father and its influence on the success in the transition, the model did not indicate any change between cohorts. The influence of the socio-economic component of social origin proved to be stable throughout all of the cohorts. Conversely, the influence of sex changed over time and declined between the oldest

and the middle cohorts (women's odds increased) and rose between the middle and the youngest cohorts. The odds of women for a successful transition were 1.603 times higher in the middle cohort in comparison with men and 0.887 times lower in the youngest cohort (see graph 6). Graph 7 illustrates the development of independent variables´ effects through the three cohorts without any interactions between them.

8. Conclusion

The initial hypothesis of this text was the assumption that the influence of the social origin of the applicant for study at post-secondary school changes over time and does so in the direction of a growing degree of determination of success in the transition from secondary to post-secondary school. There were several reasons for raising this hypothesis. First of all, owing to the slow growth of educational opportunities on the level of complete secondary (particularly academic upper secondary schools) and post-secondary education under social-ism, the effect of social origin increased. This trend has been proven through several studies. After 1989, owing to the considerable expansion and general growth in demand for complete secondary education, the tertiary sphere was unable to keep up (with the changes) and the result was that from 1995 there was a trend of decreasing likelihood of success in admission of an applicant to post-secondary school, at a level lower than that in 1992 (graph 5).

From this perspective it would appear logical that after 1989 inequalities in access to education should become even deeper. However, this assumption was overturned on the basis of a test of these hypotheses on this data sample (created through the combination of six research surveys between the years 1995 and 1999). The trend after 1989 testifies rather to a decrease of inequalities in access to education. While in the 1970s and 1980s educational inequalities according to the level of education attained by the father grew, in the 1990s they fell. Educational inequalities in the inter-cohort comparison were the greatest in the years 1970–1989. The effect of the social origin of the applicant, as defined by father's education, decreased after 1989 in comparison with the 1970s and 1980s.

This then also confirmed the discovery that educational inequalities during the period of the communist regime, specifically in the 1970s and 1980s, deepened [Matějů 1986, 1993). At the same time, however, the analysis did not confirm the expected growth of edu-cational inequalities after the 1989 revolution which had been caused by unequal develop-ment in the educational system. The analysis also showed that while the influence of the father's education differed between cohorts, the influence of the socio-economic standing of the father was stable throughout all the cohorts. This only goes to confirm the prior obser-vation that the Czech social environment has traditionally been characterised by a strong relationship between the level of attained education of the child and the education of the par-ents. It was not economic capital (financial resources) that played a dominant role, but cul-tural capital (the education of the parents, and the acquired linguistic and symbolic codes connected with this).

The explanation for the post-revolution development lies in my opinion in the structure of the applicants to study on the tertiary level. A frequently discussed problem is the differ-ing quality of school-leaving exams (i.e. 'maturitas'). It may be inferred that even if the ratio of students who today earn their diploma and are thus potential applicants for entry into post-secondary school has increased, they are not competitively 'equipped' in terms of knowl-edge for the admission procedures. Though in the 1990s the ratio of applicants accepted

from upper secondary technical schools did genuinely increase (from 30% to 36%) and the ratio of those accepted from academic upper secondary schools declined (from 62% to 52%), the expansion of diplomas through state and private schools does not necessarily mean that their graduates are capable of competing on the educational market. The most dramatic growth in the number of applicants to study at post-secondary schools between the years 1992/93 and 1998/99 occurred among upper secondary technical schools (approx. 120% increase) and upper secondary vocational schools (approx. 100% increase). The increase of the number of applicants from academic upper secondary schools was only 17%.

It appears then that it will continue to be necessary to take into consideration not only data providing information on the unequal development of the Czech educational system, in the sense of the pressure of demand for education that exceeds availability, but also the changing structure of this demand in itself. Also of importance is the fact that this structure is not only influenced by the type of secondary school graduated, but also by deferred demand and study at more than one post-secondary school (at the same time or in succession). In 1992 the ratio of fresh secondary school graduates with diplomas was 62% of the total number of applicants, and during the 1990s this ratio fell to 27% in 1998. Further analysis of the unequal development of the Czech educational system should therefore devote itself to the question of the changing structure of applicants accepted for study at post-secondary schools.

References

Blau, Peter M., Otis D. Duncan 1967. *The American Occupational Structure*. New York – London – Sydney: John Wiley & Sons, Inc.

Boguszak, M., I. Gabal, P. Matějů. 1990. 'Ke koncepcím vývoje sociální struktury v ČSSR' [On the Concepts of Development of the Social Structure in ČSSR]. *Sociologický časopis* [*Czech Sociological Review*] 2: 168–186.

Boguszak, M., P. Matějů, J. Peschar 1990. 'Family Effect on Educational Attainment in Czechoslovakia, the Netherlands and Hungary'. Pp. 211–262 in *Social Reproduction in Eastern and Western Europe: Comparative Analyses on Czechoslovakia, Hungary, the Netherlands and Poland*. ed. by J. Peschar. Nijmegen: Institute for Applied Social Sciences. Prague: Institute of Sociology, Czechoslovak Academy of Sciences.

Bourdieu, P. 1973. 'Cultural Reproduction and Social Reproduction'. In *Knowledge, Education and Cultural Change*. ed. by R. Brown. London: Tavistock Publications.

Collins, R. 1971. 'Functional and Conflict Theories of Educational Stratification'. *American Sociological Review* 36: 1002–1019.

Collins, R. 1979. *The Credential Society: A Historical Sociology of Education and Stratification*. New York: Academic.

Davis, K., W. E. Moore. 1945. 'Some Principles of Stratification'. *American Sociological Review* 10: 242–249.

De Graaf, Paul M. 1986. 'The Impact of Financial and Cultural Resources on Educational Attainment in the Netherlands'. *Sociology of Education* 59: 237–246.

Deng, Z., D. J. Treiman. 1997. 'The Impact of the Cultural Revolution on Trends in Educational Attainment in the People's Republic of China'. *American Journal of Sociology* 103: 391–428.

Featherman, David L., Robert M. Hauser. 1978. *Opportunity and Change*. New York: Academic Press.

Gerber, Theodore P. 2000. 'Educational Stratification in Contemporary Russia: Stability and Change in the Face of Economic and Institutional Crisis'. *Sociology of Education* 73: 219–246.

Gerber, Theodore P., M. Hout. 1995. 'Educational Stratification in Russia during the Soviet Period'. *American Journal of Sociology* 101: 611–660.

Hanley, Eric. 2001. 'Centrally Administred Mobility Reconsidered: The Political Dimension of Educational Stratification in State-Socialist Czechoslovakia'. *Sociology of Education* 74: 25–43.

Hanley, Eric, Mathew McKeever. 1997. 'The Persistence of Educational Inequalities in State-Socialist Hungary: Trajectory Maintenance versus Counterselection'. *Sociology of Education* 70: 1–18.

Historická ročenka školství v České republice 1953/54–1997/98 [Historical Yearbook of Education in the Czech Republic 1953/54–1997/98]. 1998. Praha: ÚIV.

Kreidl, M. 2001. 'The Role of Political, Social and Cultural Capital in Secondary School selection In Socialist Czechoslovakia, 1948–1989'. In *Sociological Papers*. Prague: Institute of Sociology, Academy of Sciences of the Czech Republic.

Machonin, P., M. Petrusek. 1991. 'Ještě jednou ke koncepcím vývoje sociální struktury v Československu' [Once More on the Concepts of Development of the Social Structure in Czechoslovakia]. *Sociologický časopis* [*Czech Sociological Review*] 1: 90–96.

Mare, Robert D. 1981. 'Change and Stability in Educational Stratification'. *American Sociological Review* 46: 72–87.

Matějů, P. 1986. 'Demokratizace vzdělání a reprodukce vzdělanostní struktury v ČSSR ve světle mobilitních dat' [The Democratisation of Education and the Reproduction of Educational Structures in CSSR]. *Sociologický časopis* [*Czech Sociological Review*] 2: 131–152.

Matějů P. 1990. 'Role vzdělání a kvalifikace ve výkonové společnosti' [The Role of Education and Qualifications in a Performance Society]. *Sociologický časopis* [*Czech Sociological Review*] 4: 290–296.

Matějů, P. 1991. 'Kdo získal a kdo ztratil v socialistické redistribuci' [Who Won and Who Lost in Socialist Redistribution]. *Sociologický časopis* [*Czech Sociological Review*] 1: 13–37.

Matějů, P. 1993. 'Who Won and Who Lost in a Socialist Redistribution in Czechoslovakia?' Pp. 251–271 in *Persistent Inequality. Changing Educational Attainment in Thirteen Countries*. ed. by Shavit, Y., H. P. Blossfeld. Boulder – San Francisco – Oxford: Westview Press.

Raftery, Adrian E., M. Hout. 1993. 'Maximally Maintained Inequality: Expansion, Reform, and Opportunity in Irish Education, 1921–75'. *Sociology of Education* 1: 41–62.

Shavit, Y., H. P. Blossfeld. 1993. *Persistent Inequality. Changing Educational Attainment in Thirteen Countries*. Boulder – San Francisco – Oxford: Westview Press.

Simkus, A., R. Andorka. 1982. 'Inequalities in Educational Attainment in Hungary 1923–1973'. *American Journal of Sociology* 47: 740–751.

Treiman, D. J. 1970. 'Industrialisation and Social Stratification'. In *Social Stratification: Research and Theory for the 1970s*. ed. by E. O. Laumann. Indianapolis – New York: The Bobbs-Merrill Company, Inc.

Wong, Raymond Sin-Kwok. 1998. 'Multidimensional Influences of Family Environment in Education. The Case of Socialist Czechoslovakia'. *Sociology of Education* 71: 1–22.

Statistiky školství z let 1962 až 1989 [Education Statistics from the Years 1962 to 1989]. Praha: Ústav školských informací [Institute of Information on Education].

Vývojová ročenka školství v České republice 1989/90–1998/99 [Yearbook of Education in the Czech Republic 1989/90–1998/99]. 1999. Praha: ÚIV.

Appendix

Definition of Variables:

1. Cohort:

Table A. Distribution of the independent variable 'Cohort'

Birth cohort	Frequency	Percent
1 (1948–1969)	1897	35.9
2 (1970–1989)	2282	43.2
3 (1990–1999)	1109	21.0
Total	5288	100.0

2. Respondent's education:

'1' education without a diploma

'2' education with a diploma

'3' post-secondary education (including graduates of higher professional schools)

Table B. Distribution of the independent variable 'Respondent's education'

	Frequency	Percent
Education without a diploma	5461	49.2
Education with a diploma	3658	33.0
Post-secondary education	1979	17.8
Total	11098	100.0

3. Transition:

'0' = secondary school only

'1' = post-secondary school

4. Success in transition:

'1' yes

'0' no

Table C. Distribution of the dependent variable 'Success in transition'

	Frequency	Percent
Education with a diploma	3658	64.9
Post-secondary education	1979	35.1
Total	5637	100.0

5. The social (family) origin of the respondent:

5.1. Father's education:
– in years of school attendance

5.1.1. Father's education missing:
'1' originally missing values
'0' originally valid values

5.2. Socio-economic status of the father:
– determined through the ISEI value (International Socio-economic Employment Index)

5.2.1. Father's ISEI missing:
'1' originally missing values
'0' originally valid values

5.3. Respondent's sex:
'0' women
'1' men

Table D. Distribution of the independent variable 'Respondent's sex'

	Frequency	Percent
Women	3052	54.1
Men	2585	45.9
Total	5637	100.0

Models 1–4:

Table E. Effects of the first model of the transitions from secondary to post-secondary school Czech Republic 1948–1999, N = 5288

	B	S. E.	p-value	Exp (B)
Father's education in years	0.160	0.016	0.000	1.174
Father's ISEI	0.014	0.003	0.000	1.014
Respondent's sex (male = 1, female = 0)	0.464	0.060	0.000	1.590
Cohort (1)	−0.164	0.081	0.043	0.849
Cohort (2)	−0.142	0.069	0.039	0.868
Father's education missing	0.102	0.180	0.570	1.108
Father's ISEI missing	0.013	0.098	0.898	1.013
Constant	−3.401	0.159	0.000	

Table F. Effects of the second model of the transitions from secondary to post-secondary school Czech Republic 1948–1999, N = 5288

	B	S. E.	p-value	Exp (B)
Father's education in years	0.154	0.016	0.000	1.167
Father's ISEI	0.014	0.003	0.000	1.014
Respondent's sex (male = 1, female = 0)	0.463	0.060	0.000	1.588
Cohort (1)	0.678	0.408	0.096	1.970
Cohort (2)	−0.900	0.340	0.008	0.407
Father's education missing	0.097	0.180	0.589	1.102
Father's ISEI missing	0.016	0.098	0.867	1.017
Cohort (1)* Father's education	−0.066	0.031	0.033	0.936
Cohort (2)* Father's education	0.063	0.028	0.024	1.065
Constant	−3.321	0.164	0.000	

Table G. Effects of the third model of the transitions from secondary to post-secondary school Czech Republic 1948–1999, N = 5288

	B	S. E.	p-value	Exp (B)
Father's education in years	0.160	0.016	0.000	1.174
Father's ISEI	0.013	0.003	0.000	1.013
Respondent's sex (male = 1, female = 0)	0.464	0.060	0.000	1.590
Cohort (1)	0.294	0.251	0.241	1.342
Cohort (2)	−0.422	0.207	0.041	0.656
Father's education missing	0.094	0.180	0.601	1.099
Father's ISEI missing	0.012	0.098	0.901	1.012
Cohort (1)* Father's ISEI	−0.010	0.005	0.053	0.990
Cohort (2)* Father's ISEI	0.006	0.004	0.159	1.006
Constant	−3.356	0.160	0.000	

Table H. Effects of the fourth model of the transitions from secondary to post-secondary school Czech Republic 1948–1999, N = 5288

	B	S. E.	p-value	Exp (B)
Father's education in years	0.160	0.016	0.000	1.174
Father's ISEI	0.014	0.003	0.000	1.014
Respondent's sex (male = 1, female = 0)	0.467	0.063	0.000	1.595
Cohort (1)	−0.220	0.109	0.043	0.802
Cohort (2)	0.096	0.096	0.316	1.101
Father's education missing	0.097	0.180	0.588	1.102
Father's ISEI missing	0.018	0.098	0.858	1.018
Cohort (1)* Respondent's sex	0.127	0.160	0.428	1.136
Cohort (2)* Respondent's sex	−0.486	0.137	0.000	0.615
Constant	−3.423	0.159	0.000	

Shrnutí

Tento text se pokoušel ověřit vstupní hypotézu o rostoucím vlivu rodinného (či jinak sociálního) původu na úspěch v tranzici mezi sekundárním a terciárním sektorem školství v devadesátých letech v České republice. Rodinný (sociální) původ respondenta byl indikován vzděláním otce a jeho socioekonomickým statusem a testován byl také vliv pohlaví respondenta. Hypotéza o růstu vzdělanostních nerovností vycházela z poznatků, ke kterým došli Gerber a Hout [1995] a Gerber [2000], tj. že přetlak uchazečů, ke kterému dojde mezi dvěma úrovněmi vzdělávacího systému, zvyšuje nerovnost v přístupu ke vzdělání v neprospěch nižších sociálních vrstev. Jak bylo ukázáno výše, po roce 1989, díky značné početní expanzi a nárůstu poptávky po úplném středním vzdělání s maturitou, došlo k tomu, že terciární sektor nebyl schopen uspokojit následnou zvýšenou poptávku po vysokém školství. Po roce 1995 tak byl započat trend klesající pravděpodobnosti přijetí do terciárního sektoru školství. To znamená, že během postkomunistického období došlo v České republice k nerovnoměrnému vývoji vzdělanostního systému (jeho sekundárního a terciárního sektoru). Z této perspektivy se pak zdálo logické, že by mělo dojít k rostoucímu vlivu rodinného původu na přístup k vysokoškolskému vzdělání.

Nicméně nestalo se tak. S pomocí logistické regrese nebyla tato hypotéza potvrzena. Zdá se naopak, že po roce 1989 dochází k opačnému vývoji: nerovnosti na úrovni přechodu mezi sekundárním a terciárním sektorem se snižují. Analýza ukázala, že zatímco vliv otcova vzdělání se mezikohortně měnil (v devadesátých letech klesal), vliv jeho socioekonomického statusu zůstal napříč kohortami stabilní. Lze se tedy domnívat, že to zřejmě nebyl ekonomický kapitál (finanční zdroje), který hrál dominantní roli při realizaci vzdělanostních nerovností v českém prostředí, ale kapitál kulturní (vzdělání rodičů a zprostředkovaně nabyté jazykové a lingvistické kódy dítěte). Efekt sociálního (rodinného) původu uchazeče o studium, v této práci indikovaný vzděláním otce, ISEI otce a pohlavím respondenta, po roce 1989 ve srovnání s obdobím sedmdesátých a osmdesátých let poklesl. Vzdělanostní nerovnosti dosáhly po roce 1948 nejvyšší hladiny právě v období následujícím normalizaci. Vliv pohlaví respondenta se mezikohortně měnil tak, že poklesl mezi nejstarší a střední kohortou (vzrostly šance žen) a vzrostl mezi střední a nejmladší kohortou (šance žen se oproti šancím mužů snížily).

Vysvětlení pro tento vývoj lze najít při bližším pohledu na strukturu uchazečů o vysokoškolské vzdělání. I když se výrazně zvýšil podíl mladých lidí, kteří dnes dosahují úplného středního vzdělání s maturitou a jsou tak potenciálními uchazeči o vstup do terciárního sektoru školství, lze vyjádřit jistou pochybnost o jejich znalostní výbavě potřebné k překonání přijímacího řízení. Expanze středních škol, které dnes poskytují maturitní vzdělání, není totiž ještě zárukou, že jsou schopné připravit své absolventy tak, aby byli schopni konkurenčního boje na vzdělávacím trhu.

Summary

This paper analysed the hypothesis of the growing influence of family (social) origin on success in the transition between secondary and post-secondary school in the 1990s. The family (social) origin of the respondent was indicated through the father's education and his socio-economic status. The hypothesis of increasing educational inequalities was based on the observation of Gerber and Hout [1995] and Gerber [2000], that the pressure of applicants, which emerges between the two levels of education, increases inequality in access to education to the detriment of the lower social strata. As it was shown, after 1989, owing to the considerable expansion and general growth in demand for complete secondary education, the tertiary sphere was unable to keep up (with the changes) and the result was that from 1995 there was a trend of decreasing likelihood of success in admission of an applicant to post-secondary school. This means that the unequal development of secondary and post-secondary education in the Czech Republic during the post-communist period took place. From this perspective it appeared logical that after 1989 inequalities in access to education should become deeper.

However, with the use of the method of logistic regression the hypothesis of the growing influence of social origin on success in the transition between the secondary and tertiary levels of education was not confirmed. On the contrary, trends since 1989 testify to decreasing inequality in access to education. The analysis showed that while the influence of the father's education differed between cohorts, the influence of the socio-economic standing of the father was stable throughout all the cohorts. This means that it was not economic capital (financial resources) that played a dominant role, but cultural capital (the education of the parents, and the acquired linguistic and symbolic codes). The effect of the social (family) origin of the applicant, as defined by father's education, decreased after 1989 in comparison with the 1970s and 1980s. Educational inequalities in the inter-cohort comparison were the greatest in the years 1970–1989. Conversely, the influence of sex changed over time and declined between the oldest and the middle cohorts (women's odds increased) and rose between the middle and the youngest cohorts.

An explanation for this observation may be found in the structure of high-school graduates applying to university. Even if the ratio of students who today earn their diploma and are thus potential applicants for entry into post-secondary school has increased, they are not competitively 'equipped' in terms of knowledge for the admission procedures. The expansion of diplomas through state and private schools does not necessarily mean that their graduates are capable of competing on the educational market.

Zusammenfassung

Dieser Text ging von der Hypothese aus, dass der Einfluss der familiären (bzw. sozialen) Herkunft auf den Erfolg beim Übergang vom sekundären zum tertiären Bildungssektor in der Tschechischen Republik in den neunziger Jahren gewachsen ist, und versuchte, diese Hypothese zu beweisen.

Die familiäre (soziale) Herkunft des Respondenten wurde durch die Bildung des Vaters und seinen sozioökonomischen Status indiziert. Es wurde ebenfalls getestet, welchen Einfluss das Geschlecht des Respondenten hat. Die Hypothese von einer Zunahme der Bildungsungleichheiten ging von den Erkenntnissen aus, die Gerber und Hout [1995] und Gerber [2000] gewonnen hatten, d.h. sie setzte voraus, dass der Überdruck an Bewerbern, zu dem es zwischen den zwei Ebenen des Bildungssystems kommt, die Ungleichheiten beim Zugang zu Bildung zu Ungunsten der niedrigeren sozialen Schichten erhöht. Wie oben gezeigt, kam es nach 1989 durch die erhebliche zahlenmäßige Expansion und das Anwachsen der Nachfrage nach einer vollständigen mittleren Bildung mit Abitur dazu, dass der tertiäre Sektor nicht in der Lage war, die darauf folgende Nachfrage nach Studienplätzen zu befriedigen. Nach 1995 sank die Wahrscheinlichkeit, in den tertiären Sektor des Bildungswesens aufgenommen zu werden. Das heißt, dass es während der postkommunistischen Zeit in der Tschechischen Republik zu einer unausgeglichenen Entwicklung im Bildungssystem (in dessen sekundärem und tertiärem Sektor) kam. Aus dieser Perspektive erschien es dann logisch, dass es zu einem wachsenden Einfluss der familiären Herkunft auf den Zugang zur Hochschulbildung gekommen sein musste.

Dennoch war dies nicht geschehen. Mit Hilfe der logistischen Regression wurde diese Hypothese nicht bestätigt. Es scheint im Gegenteil so zu sein, dass es seit 1989 zu einer entgegengesetzten Entwicklung kommt: Die Ungleichheiten beim Übergang vom sekundären in den tertiären Sektor nehmen ab. Die Analyse zeigte, dass während sich der Einfluss der Bildung des Vaters über die Altersgruppen hinweg änderte (in den neunziger Jahren sank er), der Einfluss seines sozioökonomischen Status quer durch die Altersgruppen stabil blieb. Man kann also zu dem Schluss kommen, dass es offenbar nicht das ökonomische Kapital (die Finanzquellen) war, das bei der Realisierung der Bildungsungleichheiten im tschechischen Umfeld die Hauptrolle spielte, sondern das kulturelle Kapital (die Bildung der Eltern und die durch ihre Vermittlung erworbenen sprachlichen und linguistischen Kodes des Kindes). Der Effekt der sozialen (familiären) Herkunft des Studienbewerbers, in dieser Arbeit indiziert durch die Bildung des Vaters, durch den ISEI des Vaters und das Geschlecht des Respondenten, sank nach 1989 im Vergleich mit den siebziger und achtziger Jahren. Die Bildungsungleichheiten erreichten nach dem Jahr 1948 ihren Höchststand in der Zeit nach der Normalisierung. Der Einfluss des Geschlechts des Respondenten änderte sich so, dass er zwischen der ältesten und mittleren Altersgruppe sank (es wuchsen die Chancen der Frauen) und zwischen der mittleren und jüngsten Altersgruppe stieg (die Chancen von Frauen sanken gegenüber denen von Männern).

Eine Erklärung für diese Entwicklung kann man bei einem näheren Blick auf die Struktur der Bewerber um einen Hochschulplatz finden. Obwohl sich der Anteil der jungen Menschen erheblich erhöhte, die heute die vollständige mittlere Bildung mit Abitur erreichen und so auch potentielle Bewerber für den Zugang zum tertiären Sektor des Bildungswesens sind, kann man ihre Kenntnisse, die für die Absolvierung des Aufnahmeverfahrens notwendig sind, anzweifeln. Die Expansion der Mittelschulen, die heute das Abitur anbieten, ist nämlich noch keine Garantie, dass sie in der Lage sind, ihre Absolventen so vorzubereiten, dass sie im Konkurrenzkampf auf dem Bildungsmarkt bestehen können.

The Influence of Family Origin on the Evolution of Educational Inequalities in the Czech Republic after 1989

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