

Study of higher education accessibility factors

Y.M. Roshchina

Independent Institute for Social Policy

Problem

Considering higher education as one of major resources for population income growth and social mobility, it should be understood for whom in Russia higher education is accessible, on what factors probability of entering and graduating from a higher school depends, to what extent family's or parents' features are important, or parameters of secondary school and preparation for entering higher school are more important. Identification of barriers on the way to higher education would help development of adequate social policy contributing to overcome inequality in accessibility of higher education.

Objective and basic notions

The purpose of the study is to identify major social determinants of accessibility of higher education in today's Russia.

Under the term of actual accessibility of higher education we understand probability (chances) of getting higher education of various types and various quality¹. Inequality of access is interpreted as dependence of probability of getting higher education of some social and demographic factors (e.g. income). Inequality of intentions is dependence of probability of intention (or desire) to enter university on social differences.

Methodology

This study uses data of the poll² carried out in summer 2003 by the All-Russia Center for Study of Public Opinion on sampling representative for population of Russia of 15–34 year age. 3000 people in total were interviewed. Out of this sampling, 362 persons were learning in secondary school, 281 persons were - in college or vocational school, and 384 in university. Among those who were not at school at the moment of polling, 441 had higher education, and the other 1532 persons had no higher education.

Major tool for analysis consisted in construction of regression models where the dependent variable was one of the variables measuring accessibility of higher education, while the independent variables were pollee's residential features³, features of family⁴ and human capital⁵. In total, 14 models were constructed.

¹ On pay basis/free of charge, various professions, in various higher schools as per their location and rating, etc.

² The poll has been carried out for the study «Accessibility of higher education: social and institutional aspects» headed by A.G.Levinson performed in 2003 with support of Ford Foundation (See project «Accessibility of higher education: social and institutional aspects»).

³ Meaning such parameters as region and type of settlement where secondary school had been terminated.

⁴ Family's capital features are meant as: material and financial capital (welfare, income level, availability of computer, etc.); parents' human capital (parents' education level, parents' occupational status during pollee's being at school); social capital (family composition: number of members, both/single parent); cultural capital (pollee's aims and values, ethnic group, family's and school's language, religion, availability of a library).

⁵ The following parameters are meant: gender, age, school results, health, school type and teaching level, favorite matters at secondary school, mastering computer, training for entering higher school.

Results

Let's review the most interesting results obtained from those models.

1. Model of real chances of an individual to get (have) higher education

Pollees sub-sampling: all those who had education not lower than general secondary at the moment of the poll. Dependent dichotomic variable: 1 is for pollee having higher education or being student at the moment; 0 is for pollee not having higher, nor being student. The method is probit-regression.

The first group of determinants increasing probability of getting higher education is associated with "quality" of pollee's schooling in secondary school. Among the variables included into the equation, the significant variables were: schooling results, school type, attendance to complementary courses (arts, music school) during schooling. The insignificant variables are subjective assessment of school level and satisfaction from dispensed teaching, as well as aiming at human disciplines or natural sciences in secondary school.

Thus, knowledge received at school and outside school to a large extent remains major factor favorable for entering university. On the other hand, differences associated with knowledge and aptitudes are judged fair by society. Thus, 66% of school-leavers having "excellent" marks, 35% of those having "good" marks and not more than 9% of those having "satisfactory" marks entered higher school.

In addition to schooling results, type of school pollee has terminated turns out to be important. That means that in addition to personal factor (schooling results), institutional factor is also working.

For the elder group, chances for entering university were enhanced by having attended music school or arts school or courses during schooling at secondary school, as well as by having mathematics or physics as favorite matters at secondary school. But for individuals younger than 22 years, these factors become insignificant.

One of the barriers on the way to higher education is poor health of school-leavers. Pollees having mentioned poor health among the problems causing complications for them at secondary school, as it turned out, were less successful at entering university and graduating from it (except for elder group). At the same time, all the other problems proposed in the questionnaire (heavy load, etc.) turned out to be insignificant.

Besides pupil's own human capital (knowledge), parameters of his/her family's capital, first of all parents' human capital, turned out to be significant. Like in most of other studies, a clear correlation is observed: the higher parents' education level is, the larger is the probability that the youth enters higher school.

As it had been expected, in addition to influence of family and school, substantial influence on the chances of entering university is exerted by the factor of pollee's residence location at the moment of secondary school termination. The results of regression study have shown considerable gap in access to higher education between pollees having terminated a secondary school in Moscow or Saint-Petersburg and those who terminate schools in other settlements. The most sensible are the differences between school-leavers from Moscow or Saint-Petersburg secondary schools, on the one hand, and those from rural schools or schools in towns reporting to regional/republican authorities, on the other hand: not more than 21% of school-leavers in rural areas have ever entered university, while among secondary school pupils in Moscow and Saint-Petersburg, they are more than 55%.

2. Model of intention to get higher education

Pollees sub-sampling: all those who had no higher education at the moment of polling (pupils, students of vocational schools and colleges, as well as people employed or not employed in economy). Dependent dichotomic variable: 1 is for pollee having intention (pupils, students of vocational schools and colleges) or desire (for the others) of getting higher education, i.e. entering a university; 0 is for those who have no intention or desire. The method is probit-regression.

It turned out that the smallest number of significant variables is in the model for college students. For them, the only determinants of their intention to get to higher school are gender (girls are more inclined to higher education), number of books in their library (i.e. cultural capital), as well as value aiming at career and high income. On the contrary, value aiming at entertainment is a self-restricting factor.

As far as pupils of secondary schools and those who were no longer student at the moment of polling (elder group), for those models, the determinants have a lot in common. Like for the models of real chances for entering higher school, major determinants of intentions of getting higher education are parameters of pollee's secondary education. Firstly, the results of regression study testify to a correlation between school results and intention to get higher education. Secondly, learning in a specialized secondary school (with profound study of certain matters) presents additional motivation and certainty in knowledge for aiming at entering university. Thirdly, in this model, among significant parameters we find pollee's satisfaction with teaching level in secondary school, as well as orientation to one of the groups of school matters (as compared to those who didn't show any preference), evaluation of school level (for elder group). Fourthly, complementary human capital (indicated by attendance to training courses and optional schools, as well as interest in belles-lettres) favors elder pollees making choice in favor of higher education. One more form of complementary skills raising self-appraisal in the field of intention to enter higher school is knowledge of computer.

In the model of inequality of intention, influence of parents' education level is substantially attenuated: actually, it is observed for pupils in secondary schools only. While intention of pollees from secondary schools to enter higher school is in no way related to parents' welfare, those from elder group, provided their family was well-off at their school time, more often express their intention to get higher education. For pupils of secondary schools, a significant obstacle is family size. Incomplete parent family exerts negative effect on desire to go to higher school even for pollees from elder group.

3. Model of desire to get second higher education

Sampling: persons having one higher education or students receiving first higher education. Dependent variable: 0 is for those who have no intention to get second higher education, 1 is for those who intend to get second higher education. Method: probit-regression.

Like for other models, desire to get a second diploma is influenced by factors related to education at secondary school. Thus, striving for second higher education is more often observed with pollees having terminated specialized secondary schools (with deep study of certain matters), as well as attended complementary classes, courses, etc. in parallel to general schooling. Most probably, these are people who are in general more inclined to invest into their human capital. At the same time, on the contrary to the other models, school results are not significant in this model.

An important factor of getting a second higher education is specialization of the first higher education: a significant coefficient has been received for education in pedagogics and

physical training. Thus, universities' graduates with these professions need more additional professional training than graduates with other professions.

The elder pollee already having a higher school diploma is, the lower is probability that he/she has intention to get second higher education.

Family capital factors influence educational intentions in this case, too: pollees whose family's welfare during schooling was high are less often interested in second higher education, and those who were obliged to have additional earning during their school-days, on the contrary, more frequently manifest intention to continue schooling. But pollees coming from incomplete families show fewer intention to get second higher education than pollees from full families.

4. Model of selection university's type (different degree of prestige)

Sub-sampling: secondary school pupils of 10th and 11th year intending to enter higher school. Dependant qualitative variable: 0 is for those who have not yet settled which university to select; 1 is for those who intend to enter prestigious university in regional center or capital city (as per the rating of the Ministry of Education and Sciences of Russian Federation); 2 is for those who intend to go to some other higher school. Method: multinomial logistic regression.

School results do not influence the choice of university: that is shown both in regression model and cross-distribution. However, pupils attending complementary courses, classes and schools select, as a rule, more prestigious universities than for those who attend secondary school only. According to regression evaluations, father's education is an important factor of higher school selection. Assessment of family's welfare by students is not a significant factor in the model.

5. Model of accessibility of higher education for different professions

Sub-sampling for this model are people already having higher education at the moment of polling, as well as students (814 people). We have evaluated this model both for the whole sub-sampling and separately for those who already had higher education, as well as for students. Due to sampling reduction, these models used consolidated list of professions. Dependant qualitative variable in the model is profession received (or will be received) after higher school:

- economics, management, law (39,1%);
- other human sciences (9,8%);
- technical professions (26,3%);
- natural sciences and medical professions (8,6%);
- professions in the field of pedagogics or physical training (16,3%).

Method: multinomial logistic regression.

Let's first review the model for totality of pollees. According to the evaluations, human sciences are more popular as compared to economics, management and law with secondary-school pupils having terminated specialized schools (with deep study of certain matters), and somewhat less popular with those whose favorite matters at secondary school had been physics and mathematics. In general, the contingent for these professions is rather similar.

Young men selected technical professions more often than girls. Children from families with high income much less frequently went to departments dispensing technical education than for departments of economics, law and management. Furthermore, compared to economics and law departments, technical professions (the same as natural sciences and pedagogics) were more popular with those who entered university immediately after secondary school.

Specialized secondary school more often makes education in natural sciences or medicine more accessible as compared to economics or law. Besides school type, accessibility of education in natural sciences and medicine is also influenced by interest for different matters at secondary school, as well as absence of problems with health.

For rural school-leavers, profession of a teacher was more accessible than that of economist, manager or lawyer. In addition, probability of such choice grows, if schooling in pollee's school was in national language. Contrary to technical professions, girls choose teacher's profession more frequently. Comparison of the answers of today's students with those of the pollees having graduated from university long ago let us assert that interest for teacher's profession is decreasing with time. Pedagogics is a profession for which, contrary to economics and law, parents' education turned out to be significant. Children of mothers who graduated from colleges or universities were relatively rare to choose it.

When we look at the model constructed for students sampling only, we notice that what is only kept is influence of gender and welfare on accessibility of higher education in natural sciences and technical professions (it is more accessible for children from families with lower income), as well as personal preferences (dislike for arts). Higher accessibility of education in pedagogics as compared to economics and law is observed for children from incomplete families from Russian-language schools; there is negative influence for factors of poor health and mother's education level.

In the model for those who already have higher education, gender differences are significant for choice (technical professions and natural sciences for men, pedagogics for women). Accessibility of higher education is influenced by mother's education level and complementary professional education after secondary school. The factor of family's welfare is insignificant.

The results of our study let us conclude that in general, own human capital is major factor raising chances of a young person to enter university and successfully graduate from it. This plus school results and quality of the school (pupils terminating gymnasiums and specialized schools are privileged) and its location (pupils from rural schools and small towns are in a worse position) and complementary forms of schooling (courses, music, arts and other optional schools, coaches, etc.). At the same time, access to higher school is hindered for children from poor and incomplete families, children of parents of lower education or occupying lower positions. That is valid both for actual accessibility of higher education (especially prestigious and high-quality one) and for inequality of intentions. Thus, it is premature to remove the issue of equalizing chances for getting higher education from the agenda.