EDUCATIONAL SUCCESS OR FAILURE: ANALYSIS OF ECONOMIC FACTORS AFFECTING STUDENTS' ACADEMIC ACHIEVEMENT ON THE EXAMPLE OF RUSSIA

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Abstract

The article is devoted to the study of the economic foundations of university student's educational success. The success of students may have economic reasons. One of them is the quality of the surrounding socio-economic environment in which the applicant prepares to become a student. The analysis showed that the higher the level of quality of life in the region, the more students enter the universities of the region on a contract basis. The author also proved that the higher the level of quality of life in the region, the higher the average Unified State Exam (USE) score for both budget and contract places. The author showed that the general level of the USE entering the university affects the demand for contractual places at this university. The study also proved the fact that the educational level of applicants to universities does not affect their further educational success as students. This suggests that educational success at the university has a different set of factors than educational success at school. The article may be useful to researchers of higher education, questions of the success and failure of educational communities.

Key words: educational success, economic success, economic foundations, correlation analysis

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Introduction

The issues of educational success and failure of university students are quite common in Russian as well as world-wide scientific literature. Basically, this issue is considered from the point of view of pedagogy, psychology, sociology. The purpose of this article is to look at the success of student communities from the economic aspects. The author will try to answer the question of what economic reasons may exist for the success of a student.

1   What is the educational success?

In general, the concept of success can be considered from different perspectives.

The first position is the assessment of student learning outcomes in accordance with generally accepted methods in higher education pedagogy. Quite a lot of research proves that the success of a student's training can be represented as the correspondence of his knowledge and skills to the criteria that are presented to him in this training system: the classical grading system, point-rating system, etc. (Mamaeva, 2008).

The second position, you can evaluate the educational success of a student in terms of his preparedness for the labor market. Many researchers are considering providing leading universities with the set of theoretical knowledge and practical skills of a graduate necessary for a modern employer. In the article by Perevozova and Krainova (2019) the success of a university graduate as a young specialist is considered. The authors identify a number of criteria, the compliance with which provides the graduate with a competitive advantage: increasing the level of working capacity, developing a creative approach to activity, developing the ability to self-education, quick learning, increasing motivation to work, the ability to quickly find and use information, including outside the Internet, professional development in accordance with trends and innovations, the ability to work effectively as a team.

The third position from which success can be considered is the understanding of "success" by the students themselves. This position is close to the humanistic approach, where the main criterion for success is the personal perception of the concept of "success" without taking into account any external evaluation systems. So, Kondratiev (2017) emphasizes both the difference in understanding the concept of "success" by different teenage communities, and this difference within each such community. As the author notes, adolescents associate success primarily with wealth, professional self-realization, the ability to make decisions independently and influence other people (power). Friendship, love, family, respect are secondary to them. Success is generally perceived by adolescents as a property that will be acquired by them in the future. At the same time, intellectually successful adolescents more clearly represent their future, unlike children without outstanding academic success, who speak of an uncertain professional future. Educationally successful adolescents associate their success primarily with their performance results, in contrast to "unsuccessful" adolescents, for whom external indicators of success are just as important as their own activity.

Many modern students are able to independently assess their future significance for the socio-economic development of the country as a whole. And here we are not talking about the

correctness of this assessment, but that the academic behavior of students depends on this assessment. Zvyagintseva and Mukhortova (2015) note that the current generation of students recognize their importance in the labor market due to the demographic pit. There are not enough workers on the labor market; students have the belief that they will be hired. It is also important for modern students not only to work, but also to communicate, to have social communications at work. They have a great readiness for self-development, for self-education due to their own assessment of the level of teaching in universities and the availability of information outside the university.

Klochkova (2003) identifies 5 models of success: American (focused on material (tangible) success through hard work), hedonistic (obtaining life pleasures through material security); Soviet ("through education to the intelligentsia", the priority of spiritual values over material); compromise ("private life", approved and understood by "loved ones", with a non-determining influence of material factors); ascetic (rejection of material values in favor of an idealistic, spiritual goal). On the example of research of pedagogical universities students in Russia, the author shows the dominance of a compromise model among students which is justified by the time of the study (early 2000s). The compromise model of success is characteristic of the post-Soviet period. As noted by Pankratova and Anikina (2016), for modern students of economic specialties, the American and compromise models of success are typical.

In European scientific research the problem of the success of visiting students or immigrants is very common. Despite their often-reported tendency to "aim high", children of immigrants frequently demonstrate lower school achievement than children of non-immigrants (Miyamoto, 2018; Leo, 2019; Gogolin and Maaz, 2019). Stuka, Martinkova, Zvara, Zvarova (2012) show that preadmission grades predict the overall success in medical study with the same accuracy as admission tests but they describe different dimensions of students' abilities. Simultaneous use of GPA and AT in the admission process of all students should bring higher quality to the selection and also practical advantages for future analyses. Nevertheless, the idea of having a group of the students admitted based only on an excellent GPA could be considered quite reasonable.

Scientists note that there is neither completely successful nor absolutely unsuccessful socialization. But if we talk about economic socialization, then in this case there is a clear separation of the concepts of success and failure.

Consider the conditions and tools for achieving educational success, including economic success. Typically, researchers identify several tools for educational success: curiosity, self-organization (Alhadabi and Karpinski, 2019), motivation, cultural capital (Mikus et al., 2019).

Of course, do not forget that economic factors can also influence student success. Judging from the study of Zhanautov, who studied US municipal schools, the student's future career success is influenced by tangible influences of the family (size, fullness, apartment size), teachers (grades), schools (teacher incentives for salaries and professional influence through point assessment system) (Zhanautov, 2013). The work of Baker and Stevensen (1986) provides an analysis of the dependence of the social status of parents (mothers) of students on the educational success of their children. Mothers who at least got college education knew more about their child's performance, had more contact with teachers, more often took measures to manage their child's performance and more often chose preparatory courses for their child, regardless of their child's academic performance. Zhurzhina and Zoabi (2016) report on the 2005 report of the New South Wales Department of Education. The report compares the results and statistics of educational achievements of students from different socio-economic sectors. Comparing students with a high socioeconomic status and students with a low socioeconomic status, the results showed that within one school, a student who comes from high socioeconomic strata achieves better results in trials than a student with a low socioeconomic position.

Given the above, the current research question for today remains the following: do any economic factors affect the educational success of students? The aim of the work is to identify the economic basis for the success of students of Russian universities. In the next part of the article, the author will try to determine these factors.

2 Search for economic factors of educational success: research methods and results

In order to identify the economic factors for the success of Russian university students, the author has compiled a statistical database for the regions of the Russian Federation, including the following attributes:

1. the number of applicants to universities in the regions in 2015 for undergraduate programs, divided into budget and contract admission;
2. the proportion of contractors in relation to the total number of accepted applicants to universities in the regions in 2015 for undergraduate programs;

3. the average Unified State Exam (USE) score for applicants to universities in the region in 2015 for undergraduate programs, divided by budget and contract admission;

4. the number of graduating students from universities in the region who entered the undergraduate programs in 2015, divided by state employees and contractors, in 2019;

5. the dynamics of changes in the budget and contract contingent from the moment of receipt in 2015 and to the moment of release in 2019;

6. ranking of regions by quality of life in 2015 and 2018;

7. domestic regional product of regions per capita in 2015;

8. the average salary in the region in 2015.

The database includes data on 83 Russian regions.

The data on the number of entrants and graduates were taken from the statistical reporting forms from Russian universities for 2015 and 2019, collected annually by the Ministry of Science and Higher Education of the Russian Federation[1]. The years 2015 and 2019 were taken, since the normative period for mastering the undergraduate program in the country's universities is 4 years.

The average USE score for the region was calculated by the author on the basis of data from the Monitoring of the quality of university admissions for 2015 conducted by the National Research University Higher School of Economics[2].

The study used the rating of regions on the quality of life for 2015 and 2018, conducted by the rating agency RIA Rating. When calculating the rating of 2015, an analysis of 73 indicators was carried out, which are combined into 11 groups characterizing the main aspects of quality of life in the region: the level of income of the population; employment and labor market; housing conditions of the population; security of residence; demographic situation; environmental and climatic conditions; public health and educational attainment; provision with social infrastructure facilities; level of economic development; level of development of small business; development of the territory and development of transport infrastructure[3]. The rating of 2018 was calculated based on 70 indicators combined into the same groups[4].

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[1] Accessed at https://minobrnauki.gov.ru/ru/activity/stat/highed/.
[2] Accessed at https://ege.hse.ru/.
[3] Accessed at https://riarating.ru/regions_rankings/20160225/630011011.html.
[4] Accessed at https://ria.ru/20190218/1550940417.html.

Statistical data on the internal regional product per capita and the average wage by region for 2015 for the study were obtained on the official website of the Federal State Statistics Service.

The author formulated the following hypotheses:

H1. The higher the level of quality of life in the region, the more enrollment in universities in the region on a contract basis. Thus, the author wants to check whether the socio-economic indicators of the development of the region affect the students' ability to become "successful" by entering the university at the expense of either their own funds, or in most cases, at the expense of their parents.

H2. The higher the level of quality of life in the region, the higher the average USE score for both budget and contract places. This thesis is connected with the idea that the more economically favorable conditions an environment can create for a student, a future student, parents, school, society as a whole, the more successful the applicant.

H3. The higher the average USE score of those entering the budget, the higher the share of contracting personnel in the total number of students enrolled in a university. The author believes that if the university's passing score for high-budget places is high, then this stimulates a greater demand for contract places. This hypothesis is indirectly related to the idea that more contracted applicants enter more prestigious universities.

H4. The higher the average exam score for applicants entering a university, the less is the difference between applicants and those who have completed a program of study at a university. Theoretically, it can be assumed that the higher the level of applicants, the less they will be deducted later. This hypothesis is already aimed at identifying the basis for the success of students during their studies at the university.

To test these hypotheses, the author conducted a correlation analysis. Interpretation of correlation analysis data was carried out using the Cheddock scale: a weak dependence of variables with a correlation coefficient of 0.1–0.3; moderate – at 0.3–0.5; noticeable – at 0.5–0.7; high – at 0.7–0.9 and very high – at 0.9–0.99.

The following results were obtained in the results of the correlation analysis.

Despite the fact that the study used an aggregated rating of regions by quality of life, summing up more than 7 dozen different indicators of life of residents of the regions, the correlation between the rating of 2015 and the internal regional product per capita in the same year is moderate (0.372). The correlation dependence of this rating with static data on the average wage level in the region in 2015 is even less pronounced (0.2482). This discrepancy may be caused by the specifics of the methodology for building a rating of quality of life.

But at the same time, there is a noticeable correlation between the quality of life rating in the regions and all the indicators related to the admission of applicants to universities: the correlation coefficient in relation to the number of applicants to the region's universities is 0.5954, of which 0.5762 were received on the budget, entered on a contract basis is 0.6031. Thus, hypothesis H1 is confirmed: the higher the level of quality of life in the region, the more students enter the region's universities. At the same time, the quality of life in the region has more influence on the contractual reception than on the budget.

As for the USE scores, the situation is the opposite: the correlation coefficient between the quality of life rating and the average USE score received in 2015 at budget places is 0.6627; the coefficient for contracted students is 0.6036. We also observe a noticeable dependence, but at the same time, the level of quality of life in the region affects the USE budget score more than the contract one. This does not negate the fact that hypothesis H2 has also been confirmed.

It is worth noting that if we take into account the ratio of indicators of gross regional product and average salary in the region separately, then the dependencies with the reception rates are extremely weak: the ratio of gross domestic product per capita with the total number of admission is 0.3841; with budgetary admission is 0.3743; with contractual admission is 0.3941; the ratio of the average wage in the region with the total number of admission is 0.3797; with budgetary admission is 0.3597; with contractual admission is 0.3966. The coefficients associated with the exam are insignificant (0.0570, 0.1720, -0.0199, 0.0731).

We turn to the third hypothesis. Indeed, the author revealed that there is a noticeable relationship between the share of contractors in the total number of admissions and the average USE scores. At the same time, the correlation coefficient associated with the USE score of applicants for budget places is higher (0.5664) than the coefficient associated with the USE score of applicants for contract places. Hypothesis H3 is confirmed.

The fourth hypothesis was formulated in order to identify whether the level of training of applicants affects, which is reflected through their exam score on their continued success at the university. The author calculated the proportion of students who completed their studies in 2019 in the total number of students enrolled in 2015, broken down by budget and contract students. The correlation coefficients between these indicators and the average exam score were low (0.1747, 0.0507, 0.1680, -0.101). Thus, hypothesis H4 was not confirmed. The USE score of applicants entering universities does not affect their further educational success.

Conclusion

As a result of a literature review, as well as a correlation analysis, the following conclusions can be drawn.

1. The concept of educational success can be viewed from different perspectives: from the point of view of assessing the results of educational activities of students; in terms of preparing a student for the labor market and for the requirements of employers; from the point of view of the students themselves and their social perception of their own "successful" future; in terms of the economic success of the future student.

2. The success of students may have economic reasons. One of them is the quality of the environment in which the applicant prepares to become a student. The analysis showed that the higher the level of quality of life in the region, the more students enter the universities of the region on a contract basis. The author also proved that the higher the level of quality of life in the region, the higher the average USE score for both budget and contract places.

3. The author showed that the general level of the Unified State Examination entering the university affects the demand for contractual places at this university. At the same time, it was proved that the average USE score received at budget places has a greater impact on the number of contracting applicants than the average USE score entering contract places. This can be called a "budget bubble", which is formed due to the high demand for prestigious universities and educational programs and training areas that are popular with applicants.

4. The study also proved the fact that the educational level of applicants to universities does not affect their further educational success as students. This suggests that educational success at the university has a different set of factors than educational success at school.

This study has several limitations. Due to the use of the quality of life rating in the regions, based on the author's methodology of the rating agency, the results of the study can be revised if there is a different approach to assessing the socio-economic life of the region. In addition, two regions of the country were not included in the study due to limited statistical information. The study can be supplemented and expanded by the inclusion of other economic factors not considered in this paper.

The article may be useful to researchers of higher education, questions of the success of educational communities.

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