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EDUCATIONAL MOBILITY AS AN INSTRUMENT OF ECONOMIC REGULATION OF INTERNAL MIGRATION IN THE REPUBLIC OF KAZAKHSTAN

This article considers the role of educational mobility in the regulation of internal migration in Kazakhstan. In the face of significant socio-economic changes, understanding the link between education and migration becomes key to shaping effective public policies. The article analyses state programs and initiatives in the field of education, which can serve as mechanisms for regulating migration flows, promoting balanced regional development.

Based on the analysis of strategies and policies in the field of education, as well as statistics on academic mobility, the study has revealed a significant impact of educational mobility on migration processes in the country. It showed that education is an economic tool to encourage people to move to other regions. In this regard, the findings of the study emphasize the importance of targeted education policies that can reduce excessive migration to large cities and contribute to population stabilization in small towns and villages.

The study highlights the potential of educational mobility to create equal opportunities in different regions. It identifies the main challenges and barriers to access to quality education, especially in rural areas, and discusses how these problems exacerbate internal migration. The findings show that targeted education policies can not only empower individuals but also stabilize communities by reducing excessive migration to urban centres.

The aim of this scientific article is to consider internal educational mobility as a tool for economic development of regions of Kazakhstan. The present study aims to: 1) analyze internal migration processes and consider projections of demographic changes in regions; 2) find the link between youth inflow into the region and its socio-economic development; 3) evaluate the effectiveness of state programs aimed at regulating migration processes through education, in particular the «Serpín-2050» program; 4) offer recommendations for the state regulation of migration processes.

Considering education mobility as an economic tool, this article contributes to a broader discourse on migration management and regional development strategies in Kazakhstan. The findings of this study provide practical guidance for policymakers seeking to use education as a means to manage internal migration effectively.

Key words: educational mobility, internal migration, education policy, migration policy, support measures.

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Білім беру мобильділігі Қазақстан Республикасындағы ішкі көші-қонды экономикалық реттеу құралы ретінде

Бұл мақалада білім беру мобильділігінің Қазақстанның ішкі көші-қонын реттеуге қатысты рөлі қарастырылады. Маңызды әлеуметтік-экономикалық өзгерістер жағдайында білім беру мен көші-қонның арасындағы байланысты түсіну тиімді мемлекеттік саясатты қалыптастыру үшін өзекті болып табылады. Мақалада теңгерімді өңірлік дамуға ықпал ету арқылы көші-қон ағынын реттеу механизмдерінің қызметін атқара алатын білім беру саласындағы бастамалар мен мемлекеттік бағдарламалар талданады.

Білім беру саласындағы стратегия мен саясатты талдауға, сондай-ақ академиялық мобильділік бойынша статистикалық деректерге сүйене отырып, білім беру мобильділігі елдегі көші-қон үдерістеріне айтарлықтай әсер ететінін зерттеу барысында анықталды. Бұл жайт білім

лықты басқа өңірлерге көшуге ынталандыратын экономикалық құрал болып табылатынын көрсетті. Осыған байланысты зерттеу қорытындылары мақсатты білім беру саясатының маңыздылығын айқындайды, себебі ол ірі қалаларға шамадан тыс көші-қонды қысқартуға және шағын қалалар мен ауылдарда тұратын халық санын тұрақтандыруға ықпал ете алады.

Әртүрлі өңірлерде тең мүмкіндіктерді білім беру мобильділігінің әлеуеті жоғары екендігі зерттеу барысында айқындалды. Мақалада негізгі мәселелер мен сапалы білімнің қолжетімдігіне қатысты тосқауылдар, әсіресе ауылдық аймақтардағы сапалы білімге қатысты қиындықтар анықталды, сондай-ақ осындай мәселелер ішкі көші-қон мәселелерін қалай қиындататыны талқыланды. Қорытындылай келе, мақсатты білім беру саясаты жекелеген тұлғалардың құқықтары мен мүмкіндіктерін кеңейтіп қана қоймай, қалалық орталықтарға шамадан тыс көші-қонды қысқарту арқылы қауымдарды тұрақтандыра алады деп айтуға болады.

Осы ғылыми мақаланың мақсаты Қазақстан өңірлерінің экономикалық даму құралы ретінде ішкі білім беру ұтқырлығын қарастыру болып табылады.

Осы зерттеу шеңберінде мынадай міндеттер қойылады: 1) ішкі көші-қон процестерін талдау және өңірлердегі демографиялық ахуалдың өзгеру болжамдарын қарау; 2) өңірге жастардың ағыны мен оның әлеуметтік-экономикалық дамуы арасындағы байланысты табу; 3) білім беру арқылы көші-қон процестерін реттеуге бағытталған мемлекеттік бағдарламалардың, атап айтқанда «Серпін-2050» бағдарламасының тиімділігін бағалау; 4) көші-қон процестерін мемлекеттік реттеу бойынша ұсыныстарды ұсыну.

Білім беру мобильділігін экономикалық құрал ретінде қарастыра отырып, бұл мақала Қазақстанда көші-қонды және оңтайлы даму стратегияларын басқару бойынша анағұрлым кең дискурсқа өз үлесін енгізеді. Осы зерттеудің соңында шығарылған қорытындыларда білім беруді елдегі ішкі көші-қонды тиімді реттеу құралы ретінде пайдалануға ұмтылатын саясаткерлерге тәжірибелік ұсынымдар келтірілді.

Түйін сөздер: білім беру ұтқырлығы, ішкі көші-қон, білім беру саясаты, көші-қон саясаты, қолдау шаралары.

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Образовательная мобильность как инструмент экономического регулирования внутренней миграции в Республике Казахстан

В данной статье рассматривается роль образовательной мобильности в регулировании внутренней миграции в Казахстане. В условиях значительных социально-экономических изменений понимание связи между образованием и миграцией становится ключевым для формирования эффективной государственной политики. В статье анализируются государственные программы и инициативы в сфере образования, которые могут служить механизмами регулирования миграционных потоков, способствуя сбалансированному региональному развитию.

Основываясь на анализе стратегий и политики в области образования, а также статистических данных по академической мобильности, исследование выявило значительное влияние образовательной мобильности на миграционные процессы в стране. Оно показало, что образование является экономическим инструментом, стимулирующим население к переезду в другие регионы. В связи с этим, выводы исследования подчеркивают важность целевой образовательной политики, способной сокращать чрезмерную миграцию в крупные города и способствовать стабилизации населения в малых городах и селах.

Исследование подчеркивает потенциал образовательной мобильности для создания равных возможностей в разных регионах. В нем определены основные проблемы и препятствия для доступа к качественному образованию, особенно в сельских районах, а также обсуждается вопрос о том, как эти проблемы усугубляют проблемы внутренней миграции. Выводы показывают, что целевая образовательная политика может не только расширить права и возможности отдельных лиц, но также стабилизировать общины за счет сокращения чрезмерной миграции в городские центры.

Целью данной научной статьи является рассмотрение внутренней образовательной мобильности как инструмента экономического развития регионов Казахстана.

В рамках настоящего исследования ставятся следующие задачи: 1) проанализировать внутренние миграционные процессы и рассмотреть прогнозы изменения демографической ситуации в регионах; 2) найти связь между притоком молодежи в регион и его социально-экономическим развитием; 3) оценить эффективность государственных программ направленных на регулиро-

вание миграционных процессов через образование, в частности программы «Серпин-2050»; 4) предложить рекомендации для государственного регулирования миграционных процессов.

Рассматривая мобильность образования как экономический инструмент, эта статья вносит свой вклад в более широкий дискурс по управлению миграцией и стратегиям регионального развития в Казахстане. Выводы, сделанные по итогам этого исследования, дают практические рекомендации для политиков, стремящихся использовать образование как средство эффективного регулирования внутренней миграции.

Ключевые слова: образовательная мобильность, внутренняя миграция, политика образования, миграционная политика, меры поддержки.

Introduction

The emergence and development of universities and the expansion of their branches are inextricably linked to urban development (Bender, 1988). Large universities with a wide choice of specialties appeared and developed in the major cities. Today, there is no doubt in the world that higher education institutions make a significant contribution to the development of cities and their environment. Students who come to study in the cities become an important part of society, sometimes such cities get the name “college town” (Gumprecht, 2003). The emergence of a greater number of young people in cities are starting to trigger multiplicative effects on its development (Florida, 2005). The ability of universities to have a restorative effect on cities is not excluded (Goddard et al., 2014; Massey, Field, Chan, 2014). Although there is ample evidence of the impact of youth and universities on urban development, it is difficult to distinguish in practice the effect of student migration from other factors of urban development. But the demographic consequences of migration of young people in one or other region and city are obvious: there is an improvement in the birth rate and mortality rates, a change in the age structure of the population of the territory where young people migrate. But the demographic situation of the territories, in which there is an outflow of young people (Gabbrakhmanov, 2022) is worsening. Therefore, the high concentration of universities in capitals may reduce the level of access to higher education and negatively affect other regions of the country.

Many countries are already using educational mobility as a tool for regulating internal migration. For example, in China (Lu, 2009; Gao, 2021) and India (Ray, 2010) governments actively support the development of educational institutions in the regions in order to reduce the outflow of population to megacities. Some countries of the EU also have programs aimed at attracting students and young professionals to regions with low population density (Torche, 2021; Barrioluengo, 2017).

One of the problems in the current migration situation is the increase in uncompensated migration. If educational migrants do not return to their home countries for education or employment, but seek to make their academic geographical movement irreversible and irretrievable, such educational migration becomes uncompensable.

In Kazakh studies on the educational migration of youth, significant focus has been given to the issue of external migration from the country (Lesenev et al., 2021; Tolyew, 2020; Rakhimbekova, 2019). However, there is a lack of research on internal educational migration and its effects on the socio-economic development of regions. This represents a gap in existing studies.

Thus, educational mobility is perceived as an important tool for economic regulation of internal migration based on a strategy aimed at balancing the economic development of different regions by providing equal educational opportunities and stimulating population movement within the country.

Uneven economic development of the regions of Kazakhstan contributes to a significant increase in internal migration. Moreover, the existing disproportion in urban and rural areas between income and development opportunities is characteristic of all regions of the country. In villages, high school graduates have virtually no chance of getting a decent education and finding a good job. The low level of development of social infrastructure and the lack of work in small towns and villages are becoming key drivers of internal migration and the outflow of the rural population to larger cities and regional centers.

Kazakhstan is a country with large territory and low population density. In addition, the structure of regional economies differs from one another: in some regions industry predominates, in others agriculture. Hence, there is a high difference between the socio-economic level of development of individual regions. For example, in developed countries the difference in income from region to region can be within 1.5 times. But in Kazakhstan the situation is different. The difference in income of the rich and poor regions can be four times.

Considering the different level of development of regions, which is also an important factor in the increase of migration of population from less developed regions to more developed (megacities). The government has begun to address this problem and change policies through managing youth migration from one region to another. Within the framework of the Concept of migration policy of the Republic of Kazakhstan for 2023-2027, one of the target indicators is the level of internal mobility, which shows the share of arrivals in the northern and eastern regions of the total number of persons in the framework of interregional migration. Thus, this figure in 2022 was 12.6%, and by 2027 it is planned to increase the rate to 16.2% through the measures taken (Concept of migration policy, 2022). Youth, who are traditionally the most active part of society can influence the development of the region. The development of educational mobility has become seen as a tool for regional development, not only exchange of students between universities. One of the actions was the “Serpín” program, which aims to stimulate educational migration from regions with a surplus of labor force to regions with a deficit.

Literature review

Today, there are a significant number of works on the study of educational (academic) mobility and educational migration. The essence and features of educational mobility are explored in numerous research studies conducted by both Kazakhstani and foreign researchers (Baranova, 2018; Maslennikova, 2023; Mambetalina, 2020: 49; Bugubaeva, 2017; Srailova, 2014; Bokayev, 2023). According to them, academic mobility has become one of the power tools for managing migration process both within country and beyond its borders.

Educational migration is a multifaceted phenomenon, which is why the existing approaches to the study of this phenomenon are diverse. Educational migration, as well as its impact on regional development, is addressed in many researchers' studies (Bayram, 2022; Corcoran, 2017; Bilecen, 2020; Olinyk, 2021; Staniscia, 2018). These studies emphasize the complex interplay between educational mobility and regional development, highlighting how educational migration can influence economic growth, social cohesion, and labor market dynamics in various regions.

In the Kazakh studies concerning educational migration of young people, great attention is paid to the problem of external migration from the country abroad (Lesenev et al., 2021, Tolyew,

2020, Rakhimbekova, 2019). But there is insufficient research on internal educational migration and its impact on the socio-economic development of regions. This is the shortcoming of previous research.

Analyzing the existing studies, we can point out that there is a lack of scientific works on the study of internal educational mobility facilitating internal migration in Kazakhstan, as a multifaceted social process that contributes to structural changes in the economy of the country and its regions, its dynamic development, growth of educational, labor and social mobility of citizens, which determines the relevance of the article's topic, namely: educational mobility as an instrument of economic regulation of internal migration in Kazakhstan.

The imbalance in the socio-economic development of regions of Kazakhstan has been long. Solving it with the help of management of migration flows within the country has been tried since 2011. The government was based on the management of labour resources in regional development. At that time, the Employment Program until 2020 was adopted. Labour mobility was expected to ensure regional development and improve family welfare. Later, as part of the state program for the development of productive employment and mass entrepreneurship for 2017 – 2021 years «Enbek» attempts were made to reduce the proportion of the population engaged in low-productivity work through increased education (technical training) and labour mobility. Under this programme, the Ministry of Education and Science was responsible for the provision of training within the framework of the project «Serpín». However, these programmes have been difficult to implement and have not achieved the objectives they were set for. The population, particularly young people, continues to migrate from rural areas to large cities in Kazakhstan

Methodology

The methodological basis of research work includes a theoretical analysis of the content of scientific sources and normative documents related to implementation of educational mobility in higher education in Kazakhstan. The study uses methods of analysis and synthesis of data, evaluation of statistical materials on migration in education, as well as quantitative analysis of migration trends in education.

To solve the problem related to analysis of internal migration in Kazakhstan, statistics on migration were used, as well as analytical reports related to the

forecast of demographic change in Kazakhstan. The main migration flows, recipient regions and donor regions were identified.

To solve the problem of the relationship between migration and economic development in the region, a survey method for the resettlement population was chosen under the Enbek and Serpin programme. The survey was conducted with 121 respondents, of whom 54.5% were women and 45.5% men. The main causes and factors that influence population migration were highlighted. In addition, the study carried out econometric analysis of the impact on internal migration (Y) such factors as GDP level (X1) and unemployment rate (X2).

Statistical method and survey were used to evaluate the effectiveness of government programs aimed at regulating migration processes in the country.

Results and discussion

In December 2023, the Department of Forecasting and Research of the JSC «Center for Development of Labor Resources» developed a demographic forecast covering the period 2023-2050 and including several development scenarios (www.enbek.kz). According to the results of 2023, the distribution of population by regions (north, south, center-east, west, megacities) is as follows: the majority of the population lives in the southern regions (32%), and the megacities (Almaty, Astana, Shymkent) account for 24% of the population. The rest of the population was distributed among other regions, of which the northern region of Kazakhstan accounts for the lowest proportion (11%). Details are shown in Figure 1.

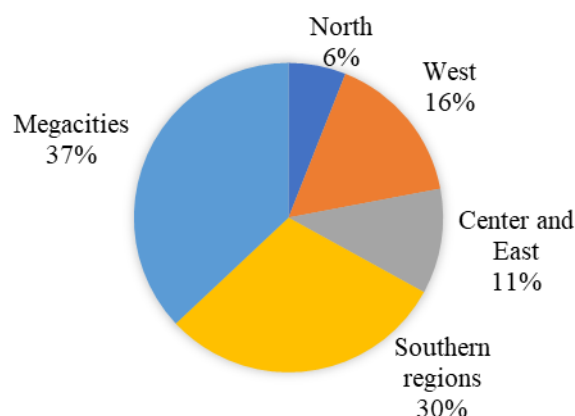


Figure 1 – Analysis of the distribution of the population of Kazakhstan by region in 2023, %
Note – based on source (Demographic forecast 2023-2050, 2023)

When looking at the age structure by region, the situation is also uneven. The largest proportion of children and adolescents is in the western and southern regions of Kazakhstan. If we look at the age structure of the population of mega-cities, they are dominated by the population aged 20 to 34. The same situation exists in the western regions of Kazakhstan. As the data of the above study show, the oldest population (from 35 years and older) is predominant in the northern, central and eastern regions of Kazakhstan. Such age differences and regional biases will have a significant impact on the future socio-economic development of these regions.

As a result of internal migration processes and other demographic changes (age structure, birth rate, etc.), the regional population structure of Kazakhstan could look like this by 2050 (figure 2).

If migration flows and demographic situation continue, by 2050, 37% of the country's population will live in megacities. For comparison, today this figure is about 24%. Those regions that now have a negative migration balance (north, center and east) and are projected to account for only 6% of the northern region by 2050, while the central and eastern regions will account for 11%. The current trend may lead to even greater imbalances in the interregional distribution of population in the future. It is expected that by 2030, compared to 2022, the total population of the north will decrease by another 4%, or 92,000. By 2050, this will be 20%. By 2050, the population of Akmola region may decrease by 4%, Kostanay – by 24%, North-Kazakhstan – by 38% (Demographic forecast 2023-2050, 2023).

Table 1 – Analysis of differences in the regional age structure of the population of Kazakhstan, 2023

Region/Age Group	Share by age group, %				
	0-9 years	10-19 years	20-34 years	35-59 years	60+years
West	22	17	20	29	12
South	23	19	19	28	11
Megacities	21	15	23	29	11
Center and East	16	15	18	33	19
North	14	14	18	34	19
Kazakhstan	20	17	20	30	13

Note – based on source (Demographic forecast 2023-2050, 2023)

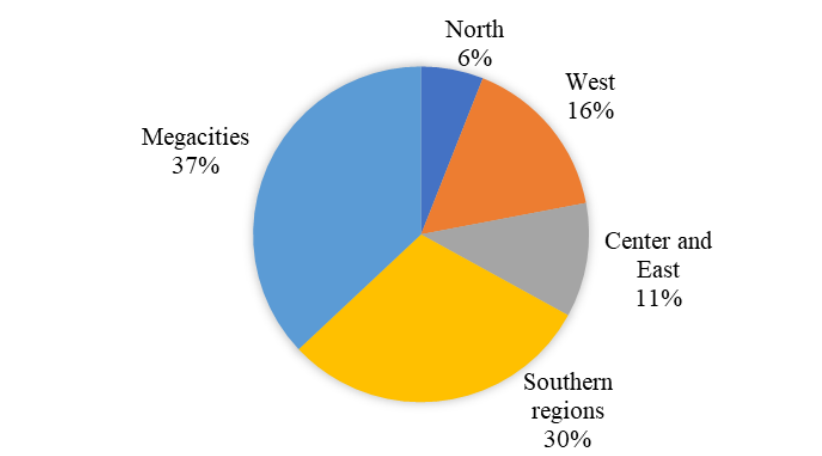


Figure 2 – Forecast of the distribution of the population of Kazakhstan by region in 2050, %
Note – based on source (Demographic forecast 2023-2050, 2023)

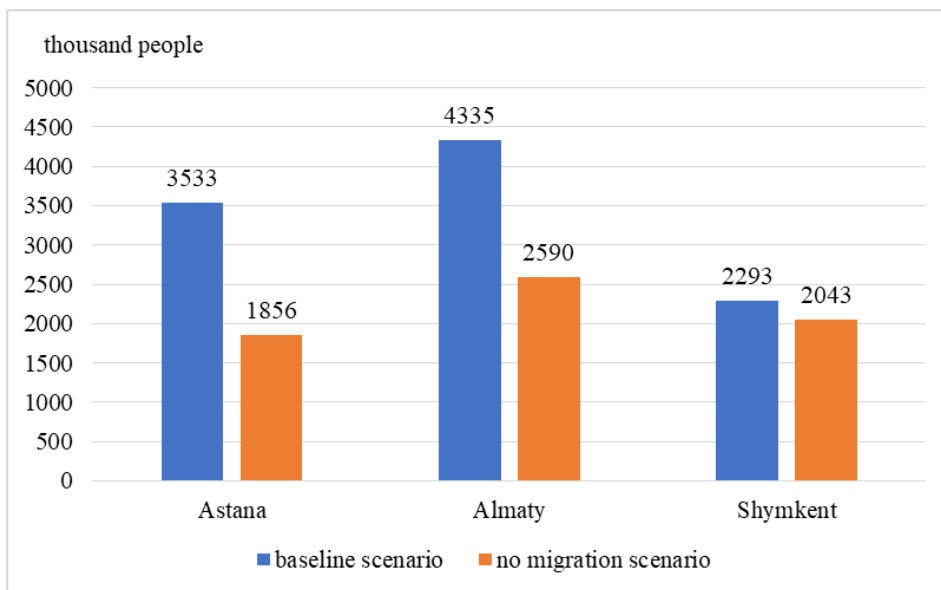


Figure 3 – Forecast of the population of megacities of Kazakhstan by 2050
Note – based on source (Demographic forecast 2023-2050, 2023)

Statistical data on the demography of Kazakhstan indicate imbalances in the regional distribution of the population as a whole and taking into account age groups. It is worth understanding that the socio-economic development of the regions also depends on the demographic situation. If there is an outflow of population and an outflow of the working-age population from the region, this will be followed by a decrease in economic activity at first, and as a consequence, a decrease in regional GDP and a decrease in the attractiveness of the region for investment. Therefore, a potential solution to this issue is to regulate and encourage internal educational migration. This approach addresses the challenge of population influx into regions with shortages while also attracting the younger age group who will come to study in these areas. Previous research has examined the impact of the presence of young people on the development of small business and found that the number of individuals aged 2-34 positively influences the growth of small businesses and individual entrepreneurship in a region. This effect is statistically significant at the 1% level and is consistent across various model specifications (Doroshenko, 2019). Additionally, another study by Duhon (2018) investigated the connection between public involvement in education and small business development, revealing a significant relationship between these factors (Duhon, 2018).

In Kazakhstan's educational sector, higher education institutions are currently making significant efforts to promote and establish both external and internal educational mobility (Methodological recommendations, 2018).

The main goals pursued through internal educational mobility are listed below.

1. Improving the quality of education. Distribution of knowledge and experience: Internal educational mobility promotes the exchange of knowledge, methods and best practices between educational institutions in different regions of the country. Access to specialized programs: Mobility allows students from less developed regions to gain access to unique or specialized educational programs at leading universities in the country.

2. Development of human capital. Internal educational mobility promotes the training of specialists who can return to their regions and contribute to their economic and social development. Providing students and specialists with opportunities for development in different parts of the country can reduce the migration of talent to other countries and support the national labor market.

3. Reducing regional disparities. Internal educational mobility contributes to the creation of equal educational conditions in all regions, which helps to reduce the disparities between developed and less developed regions. Development of regional educational centers: Stimulating educational mobility can contribute to the development and strengthening of educational institutions in the regions, which in turn attracts students and specialists there.

4. Social and cultural integration. Internal educational mobility contributes to the development of interregional ties, which helps to strengthen the sense of national unity and community. Students and teachers moving between regions participate in cultural exchange, which contributes to the development of tolerance and mutual understanding in society.

5. Adaptation to labor market needs. Internal educational mobility allows the educational system to respond more quickly to changes in labor market needs, providing regions with the necessary specialists. Educational mobility helps to distribute labor resources more evenly across the country, which can help reduce unemployment in some regions.

6. Development of academic and professional ties. Stimulating scientific research and innovation: The movement of teachers and researchers between universities and research centers promotes the development of joint projects, exchange of experience and acceleration of scientific progress. Students and teachers participating in mobility programs have the opportunity to expand their professional networks, which can contribute to their further career growth (Migration Policy Concept, 2022).

At present, Kazakhstan is actively advancing internal educational mobility between its universities, a crucial component of the country's efforts to develop its education and science sectors. In order to strengthen the overall level of competitiveness of national universities both on the world stage and at the level of regions of the country, it is planned to develop criteria for the formation of certain groups of universities, namely: "Competitive at the regional level", "Competitive at the national level" and "Competitive at the international level". It is planned to continue active work aimed at creating a regional educational hub and further attracting foreign teachers and foreign students to the best universities. The available statistical data on internal educational mobility showed that 60 universities acted as sending universities for internal educational mobility in 2018, and 78 universities acted as receiving universities. (Methodological recommendations, 2018)

Table 2 – Information on internal educational mobility (by universities)

Universities	Sending students	Accepting students
National	6 universities – 23 people	8 universities – 255 people
State	27 universities – 1197 people	28 universities – 900 people
International	1 university – 32 people	1 university – 38 people
Joint-stock	7 universities – 178 people	12 universities – 206 people
Private	19 universities – 371 people	29 universities – 402 people

Note – based on source (Methodological recommendations, 2018)

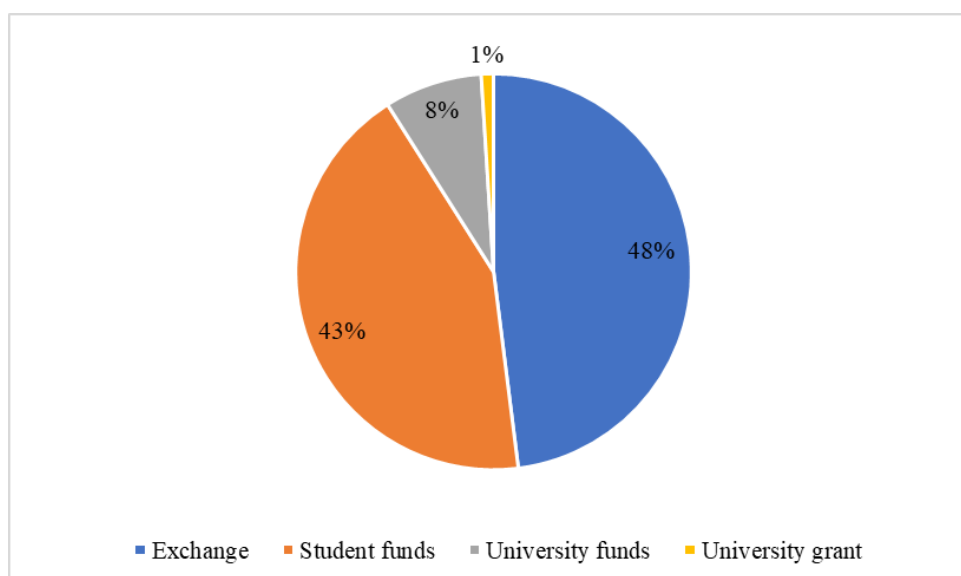
Internal educational mobility is carried out mainly through extra-budgetary funds, such as funds from the students themselves, exchange funds, funds from the university itself, or a grant from the university (Fig. 4).

Educational mobility within Kazakhstan is developing mainly due to inter-university cooperation, which is confirmed by digital data – 48% of students are sent through exchange.

According to migration policy of Kazakhstan, one of the 7 main areas is educational immigration, to stimulate which systematic work is carried out aimed at creating industry universities with modern scientific laboratories and buildings. In the past two years, 2022-2023, six branches of foreign universities have been established at Kazakhstan institutions. Due to these active measures, the proportion of foreign students among the total student population rose to 4.4% by yearly 2024 (Concept of Migration Policy, 2022).

In Kazakhstan, different programs and national projects were developed at various times aimed at im-

proving the situation with migration and interregional imbalances. Such programs and projects can be attributed to: “With diploma in the village”, “Serpín – 2050”, “Enbek”, “Strong regions – drivers of development of the country”. For example, from 2017 to 2021, 30,000 people or 7,965 families were resettled under the Enbek program. These results are in line with the plan. But the percentage remaining in recipient regions was not taken into account as an indicator of programme effectiveness. This error in assessing future effectiveness was not corrected in the national project “Strong regions – drivers of development of the country”. But the results of previous resettlement programs and in the project “Strong regions – drivers of development of the country” took into account the difficulties of the adaptation period of the settlers and proposed the idea of group resettlement by 520 families per population to facilitate the transition period. This has led to a corresponding increase in the quota for the number of immigrants.

**Figure 4** – Structure of alternative sources of financing for students' educational mobility

Note – based on source (Methodological recommendations, 2018)

Since 2014, Kazakhstan has been executing the State Program “Serpín – 2050”, which aims to train and then employ young people from the southern regions of the country in areas with labor shortages in the east, north, and west of Kazakhstan. This program addresses the imbalance of labor resources and helps fill significant personnel gaps in these regions (Beissenova, 2023). The educational grant is not given for all specialties, but only for certain ones. At the moment, the following specialties fall under this program: pedagogical sciences, engineering, information technology, agriculture.

According to the survey, people leave their former home most frequently because of “no work” (39.7%), “low wages” (18.2%), “no housing” (26.4%), “family reasons” (9.1%), rarely mentioned reasons: “did not want to live in rural areas” (5%), “poor ecology” (0.8%), “lack of educational opportunities” (0.8%).

After completing studies and obtaining a diploma, the graduate must work in a specialty in the region where he studied or in other regions that are recipient regions under the terms of the program. The duration of the grant in 2023 has been reduced from three to two years. Regions for completion:

- East Kazakhstan region,
- Kostanay region,
- Pavlodar region,

- North Kazakhstan region,
- Karaganda region,
- Akmola region.
- Abai region.

The program “Serpín – 2050” despite its low efficiency still continues to work. No data on the number of grants completed or remaining and employed is available when searching. The Ministry of Education reports only on the number of grants allocated to this programme and on the increase in the number of participants in the programme, namely higher education institutions and colleges.

The reduction of the working time in 2023 will encourage more students to enroll in this program. Also, because most people do not want to work in the regions that are part of the programme. Because previously, on average about 17% of graduates meet the requirements for three years of work. According to the JSC “Financial Center” it is stated that there is a growing number of students who do not meet their obligations on grants and training. Between 2020 and 2022, there were 3,200 students or 35.8% who did not work on their term.

There is almost no data on the proportion of graduates who stayed in the regions and did not return. For the program “Serpín – 2050” important is the indicator of how many graduates have found employment. These data are not available.

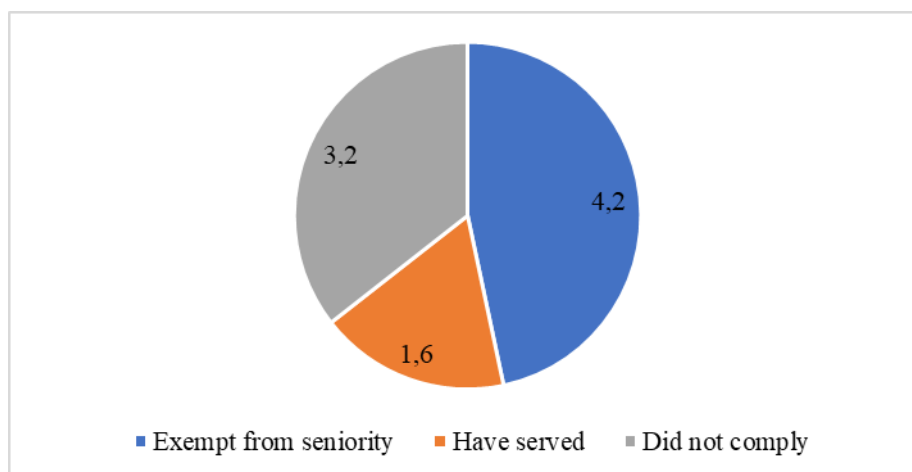


Figure 5 – Results of the implementation of the program “Serpín – 2050” for 2020-2022. (thousands. people)
 Note – compiled by the author

Table 3 – Number of grants allocated under the «Serpín-2050» project

academic year	number of grants
2014-2015	2050
2015-2016	6200
2016-2017	4212
2017-2018	4513
2018-2019	5830
2019-2020	data not found
2020-2021	5107
2021-2022	5656
2022-2023	3653
2023-2024	3653
2024-2025	3903
Note – compiled by the author	

To further support the program, additional incentives were introduced to encourage graduates to enter employment and stay in the recipient regions. For example, an economic mobility certificate will be offered, which is that if a graduate goes into employment, he or she will also be offered financial assistance to buy a home at 50% of the cost.

Every year there is an increase in the number of educational grants for this program. The number of educational institutions participating in the program of public order execution is increasing and even the implementation of the program almost reaches the target set by the quantitative indicators in terms of coverage and numbers, but the main objective of the program – employment of graduates.

In the regions-recipients for graduates of universities under the program «Serpín – 2050» among other problems, the lack of high-paying work is

highlighted. Another obstacle is the reluctance of graduates to work and live in rural areas. In their opinion, life in rural areas has a low level of amenities and comfort compared to urban life.

The question of the number of vacancies that would correspond to immigrants and university graduates is not resolved and rather difficult. Because the northern regions also have some unemployment and there is no oversupply of jobs. The question of wage levels is still open. The northern region is not a macro-region with high wages. For example, North-Kazakhstan region is one of the lowest wage region in the country and the region's economy is predominantly agricultural. So, it often happens in all the resettlement programs that have been implemented, that the resettlers come with their families to a new place in another region and do not even know what they will be doing here.

Since 2009, the national project «With a diploma to the village» has been in effect, which eliminates the existing personnel shortage in rural areas in the areas of: education, health care, culture and sports, social security, as well as the agro-industrial complex. According to this program, in 2022, in terms of regions of Kazakhstan, the largest number of young specialists received lifting allowances in Turkestan (1,618 people), West Kazakhstan (1,031 people), Almaty regions (959 people), North Kazakhstan (872 people) and Kyzylorda (661 people). The lowest rates were recorded in Ulytau (76 people) and Abay (253 people), as well as in Atyrau region (126 people), East Kazakhstan region (312 people) and Karaganda region (351 people). (Kapital.kz. 2023).

Within the study, an econometric analysis of the impact on internal migration (Y) of factors such as GDP level (X1) and unemployment rate (X2) was carried out. Data are presented in the table.

Table 4 – Data for econometric analysis

Year	Internal migration in all flows – the exiting, human	GDP, billion dollars	Unemployment, %
	Y	X1	X2
2001	271728	133,3	10,4
2002	269092	148,7	9,3
2003	291758	165,7	8,8
2004	317928	186,5	8,4
2005	298627	211	8,1
2006	295057	240,8	7,8
2007	311740	269,3	7,3

Continuation of the table

Year	Internal migration in all flows – the exiting, human	GDP, billion dollars	Unemployment, %
	Y	X1	X2
2008	345138	283,5	6,6
2009	364655	288,7	6,6
2010	366037	313,5	5,8
2011	364638	344	5,4
2012	337841	370	5,3
2013	337267	417,5	5,2
2014	405616	427,5	5,1
2015	455451	407,4	5
2016	616894	423,8	4,9
2017	930820	448,5	4,9
2018	888184	478	4,8
2019	1110252	508,5	4,8
2020	845200	501,2	4,9
2021	756510	542,9	4,9
2022	222600	103,2	

Note – compiled by the author

The regression equation (estimation of the regression equation) will look like this:

$$Y = -1490209.8625 + 3336.5875X1 + 132172.0181X2$$

Regression statistics are presented in table 5.

Table 5 – Regression statistics

plural R	0,853460149
R-square	0,728394227
Normalized R-square	0,698215807
Standard error	142441,2975
Observation	21

Note – compiled by the author

The model parameters can be economically interpreted: increasing X1 by 1 unit leads to an increase of Y on average by 3336,587 units. The number of units is increased by 2.5 times per month; increasing X2 by 1 unit results in an average increase of Y by 132172.018 units. The number of units is also increased by 1 unit. Interpretation of regression coefficients. Constant estimates the aggregate influence of other (except for the model's xh) factors on the Y result and means that Y in the absence of xi

would have been -1490209.8625. Coefficient b1 indicates that with x1 by 1, Y increases to 3336.5875. Coefficient b2 indicates that with an increase of x2 by 1, Y increases by 132172.0181.

The largest number of young specialists (66.3 thousand people) were attracted to the field of education. In second place is the healthcare sector, where 20.6 thousand people were attracted. Next come specialties in the field of sports and culture, social security – 5.2 thousand people and the agro-industrial complex – 3.2 thousand people. In the current 2024, as a result of the implementation of the programs “Serpín”, “With a diploma to the village”, more than 33 thousand people will receive state support measures.

Conclusion

Education mobility is one of the most important mechanisms for economic regulation of internal migration in Kazakhstan, promoting equitable distribution of human capital among regions and promoting uniform socio-economic development. The results of the study concluded that the influx of young people into regions contributes to the economic growth and development of these regions. As studies indicated young professionals bring fresh ideas, increase the competitiveness of the lo-

cal labor market and promote innovation. The more young people are attracted to a region, the higher the level of employment and labor productivity, which, in turn, has a positive effect on the standard of living of the region's population. Mobility in education is a tool for the redistribution of knowledge, skills and labour resources in a country with significant regional economic development differences. By facilitating the movement of students and professionals, educational mobility can help to eliminate regional imbalances and promote a more balanced economic landscape. For educational mobility to effectively regulate internal migration, it must be strategically designed to promote regional development, Retaining talent and creating favorable conditions for graduates to return to their home regions.

But education policy alone is not enough to develop regions economically. The study found that all government programmes, including the «Serpín program», aimed at developing regions through migration and resettlement have not achieved their goals. Even if the settlers arrived in the region, a large proportion of them did not stay there. And the reasons for this were mainly the degree of employment and wage levels in the region. If we create the conditions to attract students to the region, but not ensure their further employment, then measures may not justify themselves.

Therefore, the authors propose that an integrated approach be taken in designing public programmes for the purpose of making recommendations. This implies a comprehensive strategy that includes both educational and economic policies. Educational initiatives should include special programmes and incentives that are tailored to the specific needs of different regions. Whole economic measures can be directed towards the development of local industries and infrastructure to support the return and employment of skilled people. This integrated approach can mitigate regional disparities, making the less developed area more attractive and viable, while maximizing the benefits of migration for education. Finally, by developing a comprehensive strategy that combines education opportunities with economic development efforts, Kazakhstan can use educational mobility as a powerful tool to address regional imbalances, stimulate sustainable growth, and to build a more just and prosperous future for all its regions.

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References

1. Barrioluengo, M. S., & Flisi, S. (2017). Student mobility in tertiary education: institutional factors and regional attractiveness. Publications Office of the European Union, Luxembourg. EUR, 28867.
2. Bayram, H. (2022). Examining Social Studies Education in the Context of Migration and Asylum: A Study Based on Teachers' Views. *International Journal of Psychology and Educational Studies*, 9, 866-881.
3. Beissenova, A. A. (2023). Features of socio-cultural adaptation of students under the program "Serpín" to the university space. *Journal of Psychology & Sociology*, 87(4).
4. Bender T.M. (ed.) (1988) *The University and the City: From Medieval Origins to the Present*. New York: Oxford University.
5. Bilecen, B. (2020). Education and migration. In *Routledge Handbook of Migration and Development* (pp. 242-250). Routledge.
6. Corcoran, J., & Faggian, A. (2017). Graduate migration and regional development: an international perspective. In *Graduate Migration and Regional Development* (pp. 1-10). Edward Elgar Publishing.
7. Florida R. (2005) *Cities and the Creative Class*. New York, NY: Routledge.
8. Gao, X., & Zhai, K. (2021). Spatial mechanisms of regional innovation mobility in China. *Social Indicators Research*, 156(1), 247-270.
9. Goddard J., Coombes M., Kempton L., Vallance P. (2014) Universities as Anchor Institutions in Cities in a Turbulent Funding Environment: Vulnerable Institutions and Vulnerable Places in England. *Cambridge Journal of Regions Economy and Society*, vol. 7, no 2, pp. 307-325. doi:10.1093/cjres/rsu004
10. Gumprecht B. (2003) The American College Town. *Geographical Review*, vol. 93, no 1, pp. 51-80. doi:10.1111/j.1931-0846.2003.tb00020.x
11. Kapital.kz (2023). Куда трудоустраиваются молодые специалисты по программе С дипломом – в село. Электронный ресурс: <https://kapital.kz/gosudarstvo/118467/kuda-trudoustraiwayut-sya-molodyye-spetsialisty-po-programme-s-diplomom-v-selo.html>
12. Lu, D. (2009). The economic consequence of labor mobility in China's regional development. *Asian Economic Papers*, 8(2), 85-114.

13. Massey J., Field S., Chan Y. (2014) Partnering for Economic Development: How Town-Gown Relations Impact Local Economic Development in Small and Medium Cities. *Canadian Journal of Higher Education*, vol. 44, no 2, pp. 152–169. doi:10.47678/cjhe.v44i2.183813
14. Oliinyk, O., Bilan, Y., Mishchuk, H., Akimov, O., & Vasa, L. (2021). The impact of migration of highly skilled workers on the country's competitiveness and economic growth. *Montenegrin Journal of Economics*.
15. Rakhimbekova, B. (2019). Современные тенденции образовательной миграции в Российской Федерации. *Вестник КазНУ. Серия философии, культурологии и политологии*, _68_(2), 251–262. <https://doi.org/10.26577/jpcp.2019.v68.i2.027>
16. Ray, J., & Majumder, R. (2010). Educational and occupational mobility across generations in India: social and regional dimensions.
17. Srailova, G. (2014). Развитие академической мобильности в Казахстане. *Studii și cercetări filologice. Seria Limbi Străine Aplicate*, (13), 106-112.
18. Staniscia, B., & Benassi, F. (2018). Does regional development explain international youth mobility?. *Spatial patterns and global/local determinants of the recent emigration of young Italians. Belgeo. Revue belge de géographie*, (3).
19. Torche, F. (2021). Educational mobility in the developing world. *Social Mobility in Developing Countries*.
20. Баранова, Л. Н. (2018). Академическая мобильность как самый важный компонент высшего образования. *Проблемы педагогики*, (6 (38)), 28-32.
21. Бокаев, Б. Н., Давлетбаева, Ж. Ж., Бактиярова, Г. Н., & Уразымбетов, Б. М. (2023). Образовательная миграция: причины эмиграции молодежи из Казахстана.
22. Бугубаева, Р. О. (2017). Академическая мобильность студентов как составляющая международных интеграционных процессов в системе высшего образования Казахстана.
23. Габдрахманов, Н. К., Карачурина, Л. Б., Мкртчян, Н. В., & Лешуков, О. В. (2022). Образовательная миграция молодежи и оптимизация сети вузов в разных по размеру городах. *Вопросы образования*, (2), 88-116.
24. Демографический прогноз на 2023-2050. (2023). Прогноз разработан Центром развития трудовых ресурсов Казахстана. Электронный ресурс: <https://www.enbek.kz/ru/analytical-data/6447>
25. Дорошенко С.В., Шеломенцев А.Г. (2019). Эконометрическая оценка численности молодежи в составе факторов развития малого предпринимательства в регионе. *Экономика региона*, 15 (4), 1115-1128.
26. Духон, А. Б., Зиньковский, К. В., Образцова, О. И., & Чепуренко, А. Ю. (2018). Влияние программ предпринимательского образования на развитие малого бизнеса в России: опыт эмпирического анализа в региональном контексте. *Вопросы образования*, (2), 139-172.
27. Концепция миграционной политики. (2022). Постановление Правительства Республики Казахстан от 30 ноября 2022 года № 961 «Об утверждении Концепции миграционной политики Республики Казахстан на 2023–2027 годы»
28. Леденева В.Ю., Ломакина О.В., Джунусов А.М., Бегасилов Б.Т. (2021) Образовательная политика Казахстана в условиях миграции молодежи // *Высшее образование в России*. Т. 30. № 6. С. 156-168. DOI: 10.31992/0869-3617-2021-30-6-156-168
29. Леденева В.Ю., Ломакина О.В., Джунусов А.М. & Бегасилов Б.Т. (2021). Образовательная политика Казахстана в условиях миграции молодежи. *Высшее образование в России*, (6), 156-168.
30. Мамбеталина Д. (2020). Внутренняя мобильность студентов в ВУЗах Казахстана: SWOT-анализ. *Вестник КазНУ. Серия педагогическая*, 65(4), 49–61. <https://doi.org/10.26577/JES.2020.v65.i4.05>
31. Масленникова, О. Г., & Шарыпина, П. А. (2023). Состояние и особенности развития академической мобильности обучающихся в современных российских университетах. *Язык и культура*, (64), 169-191.
32. Методические рекомендации. (2018). Методические рекомендации по реализации программ академической мобильности – Астана: Центр Болонского процесса и академической мобильности МОН РК, 2018. – 48 с.
33. Толеуов Ж.С. (2020) Регулирование внешних миграционных процессов молодежи в страна Центральной Азии (Казахстан, Кыргызстан, Узбекистан, Таджикистан) // *Вестник Кемеровского государственного университета. Серия: Политические, социологические и экономические науки*. Т. 15. № 1. С. 33–43. DOI: <https://doi.org/10.21603/2500-3372-2020-5-1-33-43>

References

1. Baranova, L. N. (2018). Akademicheskaya mobil'nost' kak samyj vazhnyj komponent vysshego obrazovaniya [Academic mobility as the most important component of higher education]. *Problemy pedagogiki*, (6 (38)), 28-32.
2. Barrioluengo, M. S., & Flisi, S. (2017). Student mobility in tertiary education: institutional factors and regional attractiveness. *Publications Office of the European Union, Luxembourg*. EUR, 28867.
3. Bayram, H. (2022). Examining Social Studies Education in the Context of Migration and Asylum: A Study Based on Teachers' Views. *International Journal of Psychology and Educational Studies*, 9, 866-881.
4. Beissenova, A. A. (2023). Features of socio-cultural adaptation of students under the program "Serpin" to the university space. *Journal of Psychology & Sociology*, 87(4).
5. Bender T.M. (ed.) (1988) *The University and the City: From Medieval Origins to the Present*. New York: Oxford University.
6. Bilecen, B. (2020). Education and migration. In *Routledge Handbook of Migration and Development* (pp. 242-250). Routledge.

7. Bokayev B., Davletbayeva Ж., Baktiyarova Г., & Urazymbetov Б. (2023). Educational migration: reasons for emigration of youth from Kazakhstan. *Bulletin of L.N. Gumilyov Eurasian National University. Pedagogy. Psychology. Sociology Series.*, 144(3), 412–421. Retrieved from <https://bulpedps.enu.kz/index.php/main/article/view/515>.
8. Bugubayeva, R. O., Goryacheva, E. V., & Daniyarova, M. T. (2016). Academic mobility of students as a component of international integration processes in the system of higher education in Kazakhstan. *Higher school of Kazakhstan. The Bologna process*, (1), 35-38.
9. Corcoran, J., & Faggian, A. (2017). Graduate migration and regional development: an international perspective. In *Graduate Migration and Regional Development* (pp. 1-10). Edward Elgar Publishing.
10. Demograficheskij prognoz na 2023-2050. (2023). Prognoz razrabotan Centrom razvitiya trudovyh resursov Kazahstana [Demographic forecast for 2023-2050]. *Elektronnyj resurs*: <https://www.enbek.kz/ru/analytical-data/6447>
11. Doroshenko S.V., Shelomencev A.G. (2019). Ekonometricheskaya ocenka chislennosti molodezhi v sostave faktorov razvitiya malogo predprinimatel'stva v regione [Econometric evaluation of youth in the factors of small business development in the region]. *Ekonomika regiona*, 15 (4), 1115-1128.
12. Duhon, A. B., Zin'kovskij, K. V., Obrazcova, O. I., & Chepurenko, A. YU. (2018). Vliyanie programm predprinimatel'skogo obrazovaniya na razvitie malogo biznesa v Rossii: opyt empiricheskogo analiza v regional'nom kontekste [Impact of entrepreneurship education programs on small business development in Russia: experience of empirical analysis in a regional context]. *Voprosy obrazovaniya*, (2), 139-172.
13. Florida R. (2005) *Cities and the Creative Class*. New York, NY: Routledge.
14. Gabdrahmanov, N. K., Karachurina, L. B., Mkrтчjan, N. V., & Leshukov, O. V. (2022). Obrazovatel'naja migracija molodezhi i optimizacija seti vuzov v raznyh po razmeru gorodah [Educational migration of young people and optimization of the network of universities in different cities by size]. *Voprosy obrazovaniya*, (2), 88-116.
15. Gao, X., & Zhai, K. (2021). Spatial mechanisms of regional innovation mobility in China. *Social Indicators Research*, 156(1), 247-270.
16. Goddard J., Coombes M., Kempton L., Vallance P. (2014) *Universities as Anchor Institutions in Cities in a Turbulent Funding Environment: Vulnerable Institutions and Vulnerable Places in England*. *Cambridge Journal of Regions Economy and Society*, vol. 7, no 2, pp. 307–325. doi:10.1093/cjres/rsu004
17. Gumprecht B. (2003) *The American College Town*. *Geographical Review*, vol. 93, no 1, pp. 51–80. doi:10.1111/j.1931-0846.2003.tb00020.x
18. Kapital.kz (2023). Kuda trudoustravayutsya molodye specialisty po programme S diplomom – v selo.[Where young professionals in the program WITH diploma – in the village]. *Elektronnyj resurs*: <https://kapital.kz/gosudarstvo/118467/kuda-trudoustravayut-sya-molodye-spetsialisty-po-programme-s-diplomom-v-selo.html>
19. Koncepciya migracionnoj politiki. (2022). Postanovlenie Pravitel'stva Respubliki Kazahstan ot 30 noyabrya 2022 goda № 961 «Ob utverzhdenii Koncepcii migracionnoj politiki Respubliki Kazahstan na 2023–2027 gody» [On the approval of the Concept of migration policy of the Republic of Kazakhstan for 2023-2027 years] <https://adilet.zan.kz/rus/docs/P2200000961>
20. Ledeneva V.Ju., Lomakina O.V., Dzhunusov A.M. & Begasilov B.T. (2021). Obrazovatel'naja politika Kazahstana v usloviyah migracii molodezhi [Educational policy of Kazakhstan in the conditions of migration of young people. Higher education in Russia]. *Vyshee obrazovanie v Rossii*, (6), 156-168.
21. Ledeneva V.YU, Lomakina O.V, Dzhunusov A.M., Begasilov B.T. (2021) Obrazovatel'naya politika Kazahstana v usloviyah migracii molodyozhi [Education policy of Kazakhstan in the conditions of migration of young people] // *Vyshee obrazovanie v Rossii*. T. 30. № 6. S. 156-168. DOI: 10.31992/0869-3617-2021-30-6-156-168
22. Lu, D. (2009). The economic consequence of labor mobility in China's regional development. *Asian Economic Papers*, 8(2), 85-114.
23. Mambetalina D. (2020). Vnutrennyaya mobil'nost' studentov v VUZah Kazahstana: SWOT-analiz [Internal mobility of students in universities of Kazakhstan: SWOT analysis.]. *Vestnik KazNU. Seriya pedagogicheskaya*, 65(4), 49–61. <https://doi.org/10.26577/JES.2020.v65.i4.05>
24. Maslennikova, O. G., & Sharypina, P. A. (2023). Sostoyanie i osobennosti razvitiya akademicheskoy mobil'nosti obuchayushchihsya v sovremennyh rossijskih universitetah [Status and features of the development of academic mobility of students in modern Russian universities]. *Yazyk i kul'tura*, (64), 169-191.
25. Massey J., Field S., Chan Y. (2014) *Partnering for Economic Development: How Town-Gown Relations Impact Local Economic Development in Small and Medium Cities*. *Canadian Journal of Higher Education*, vol. 44, no 2, pp. 152–169. doi:10.47678/cjhe.v44i2.183813
26. Metodicheskie rekomendacii. (2018). Metodicheskie rekomendacii po realizacii programm akademicheskoy mobil'nosti [Methodological recommendations for the implementation of academic mobility programmes] – Astana: Centr Bolonskogo processa i akademicheskoy mobil'nosti MON RK, 2018. – 48 s.
27. Oliinyk, O., Bilan, Y., Mishchuk, H., Akimov, O., & Vasa, L. (2021). The impact of migration of highly skilled workers on the country's competitiveness and economic growth. *Montenegrin Journal of Economics*.
28. Rakhimbekova, B. (2019). Sovremennye tendencii obrazovatel'noj migracii v Rossijskoj Federacii [Current trends of educational migration in the Russian Federation]. *Vestnik KazNU. Seriya filosofii, kul'turologii i politologii*, 68(2), 251–262. <https://doi.org/10.26577/jpcp.2019.v68.i2.027>
29. Ray, J., & Majumder, R. (2010). Educational and occupational mobility across generations in India: social and regional dimensions.

30. Srailova, G. (2014). Razvitie akademicheskoy mobil'nosti v Kazahstane [Development of academic mobility in Kazakhstan]. *Studii și cercetări filologice. Seria Limbi Străine Aplicate*, (13), 106-112.
31. Staniscia, B., & Benassi, F. (2018). Does regional development explain international youth mobility?. *Spatial patterns and global/local determinants of the recent emigration of young Italians*. *Belgeo. Revue belge de géographie*, (3).
32. Toleuov Zh.S. (2020) Regulirovanie vneshnih migracionnyh processov molodjozhi v strana Central'noj Azii (Kazahstan, Kyrgyzstan, Uzbekistan, Tadjikistan) [Regulation of external migration processes of young people in the country of Central Asia (Kazahstan, Kyrgyzstan, Uzbekistan, Tajikistan)] // *Vestnik Kemerovskogo gosudarstvennogo universiteta. Serija: Politicheskie, sociologicheskie i jekonomicheskie nauki*. T. 15. № 1. S. 33–43. DOI: <https://doi.org/10.21603/2500-3372-2020-5-1-33-43>
33. Torche, F. (2021). Educational mobility in the developing world. *Social Mobility in Developing Countries*.

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