HIGHER SCHOOL OF ECONOMICS
NATIONAL RESEARCH UNIVERSITY
SAINT PETERSBURG

Digital Footprints of Educational Migrations: New data, New possibilities

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Project prepared in R programming environment. Data: VK.com API.

Social Networking Sites as a Source of Data about Educational Mobility

People constantly leave digital traces, and the most important educational, career, or migration decisions can be analyzed via footprints in Social Networking Sites, such as Facebook and LinkedIn, VK in Russia, or Renren in China. The most popular SNS from Belarus to Kyrgyzstan is VK, where millions of school and university students are registered. Wherever they move after the school, they keep their VK profile and just add new cities and universities: school at hometown N, university in St. Petersburg, job in Moscow, Helsinki, or Shanghai.

Traditional data collection on educational migrations require labor intensive and costly collection of detailed statistics in universities, conducting expensive large-scale surveys and doing field research. Modern Social Informatics methods allow gathering information about educational and professional migration flows with previously impossible details and amount of data. Indeed, Internet data have some drawbacks and limitations, but they are generously compensated with the new opportunities provided.

This brochure introduces first results of «Digital Footprints of Educational Migrations» — one of the projects in the area of Internet and Digital Society research within Digital Social Sciences and Humanities initiative at the St. Petersburg campus of NRU HSE. The project is developed in the Sociology of Education and Science Laboratory by students, who mastered modern methods of digital data research. We gathered data from thousands of VK profiles and made visualizations to show our reader educational mobility and migration flows between different cities and countries.

Student Flows from Russian cities to NRU HSE Moscow

Saint Petersburg

Moscow

Nizhniy Novgorod

Yekaterinburg

Tambov

Samara

Novosibirsk

Krasnoyarsk
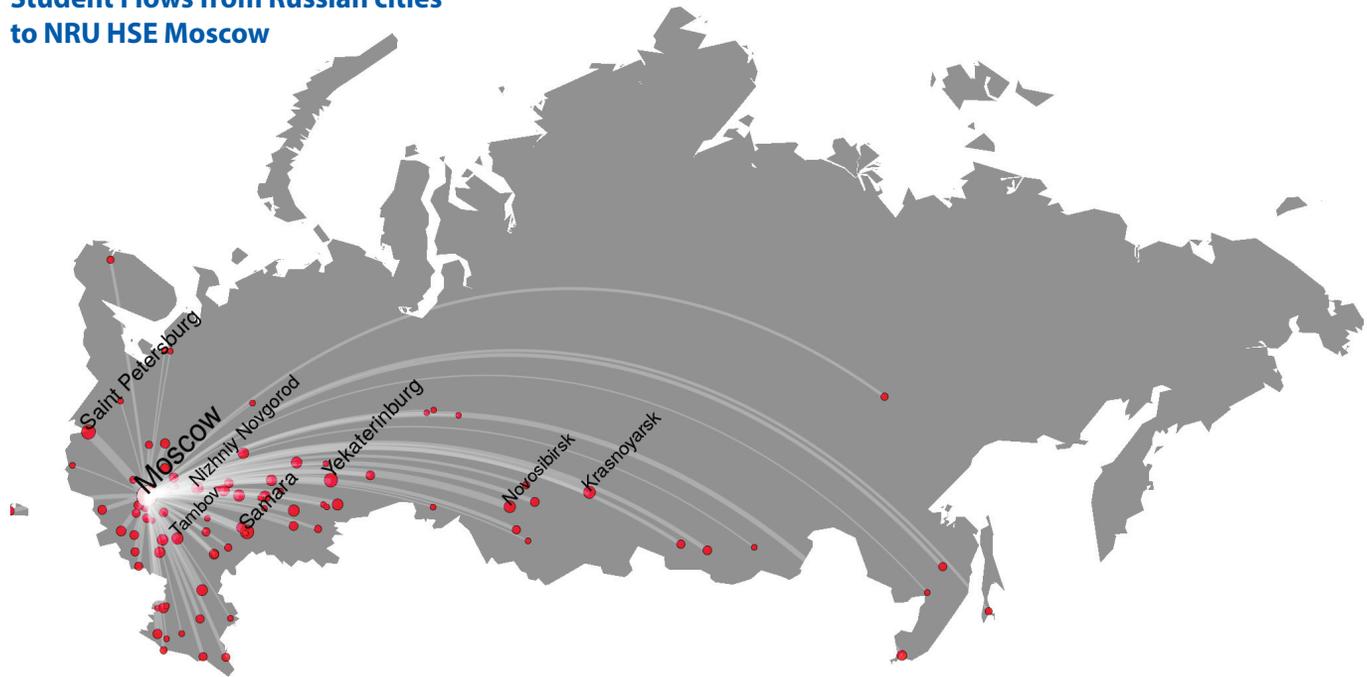
National Research University — Higher School of Economics combines high selectivity with openness. We are proud to have students from all parts of Russia, and we believe that it is made possible by the Unified State Exam that supports mobility and allows student from all parts of Russia to apply anywhere they wish. There are four campuses in HSE: Moscow, St. Petersburg, Nizhny Novgorod, and Perm. The biggest metropolitan campus gathers ambitious students from all over the country.

Student Flows from Russian cities
to NRU HSE St. Petersburg

Our campus in St. Petersburg is much smaller and more modest than the one in Moscow, but it also gathers students from all parts of the country. It is popular in part due to the reputation of the campus itself, as a small, but high-quality university, in part due to reputation of St. Petersburg as a city with comfortable social environment. Approximately, 70 % of the students in our campus are from other cities. We can observe notable flows from North-Western Russia due to geographical proximity, but there are flows from other regions — all the way from the Far East of Russia.

Student migration flows from independent ex-USSR countries to Kazan and Tomsk (absolute values)

Ukraine

Belarus

Turkmenistan

Latvia
Lithuania
Estonia
Azerbaijan
Georgia
Moldova
Armenia

Uzbekistan

Tajikistan

Kazakhstan

Kyrgyzstan

Kazan

Tomsk
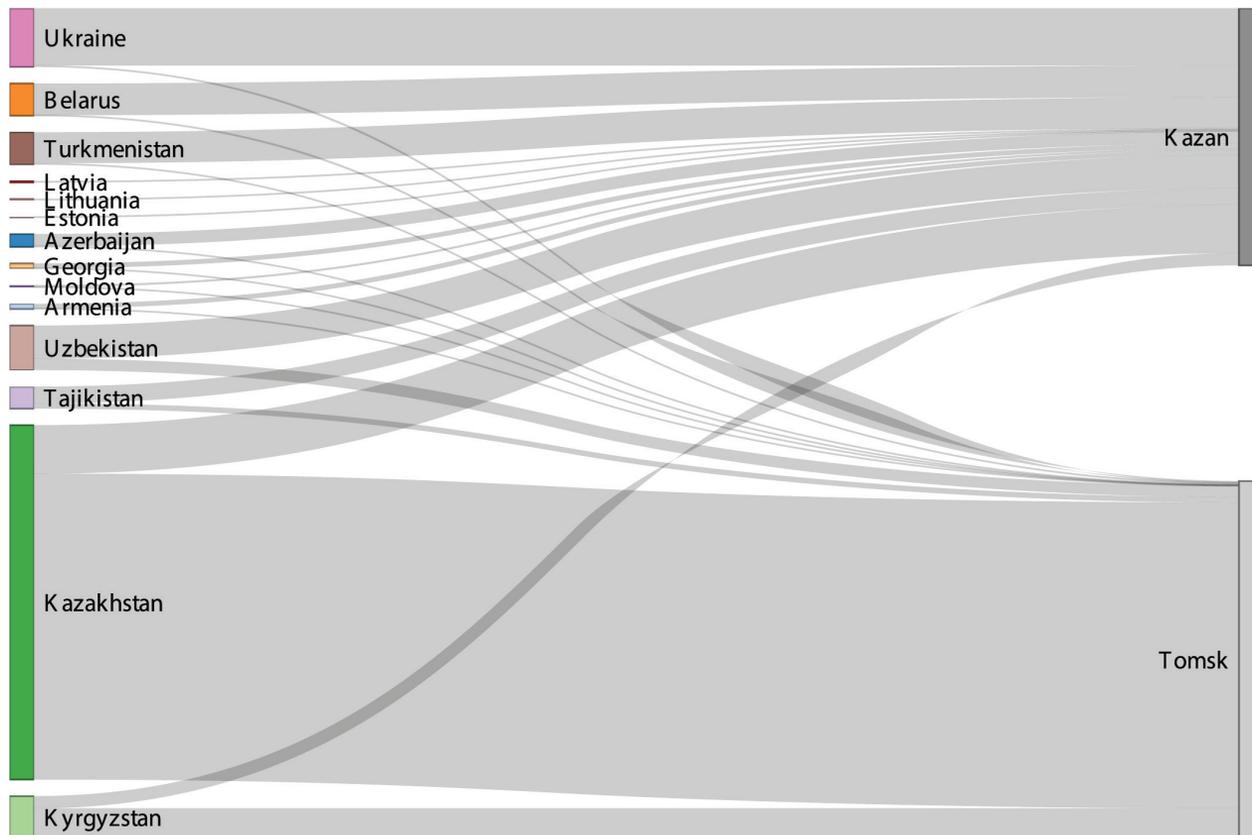
Student migration flows from independent ex-USSR countries to Moscow and St. Petersburg
(normalized by the number of migrants in the host cities)

Ukraine

Kazakhstan

Lithuania

Belarus

Turkmenistan
Estonia
Latvia
Azerbaijan
Tajikistan
Moldova
Uzbekistan
Kyrgyzstan
Armenia
Georgia

Moscow

St.Petersburg
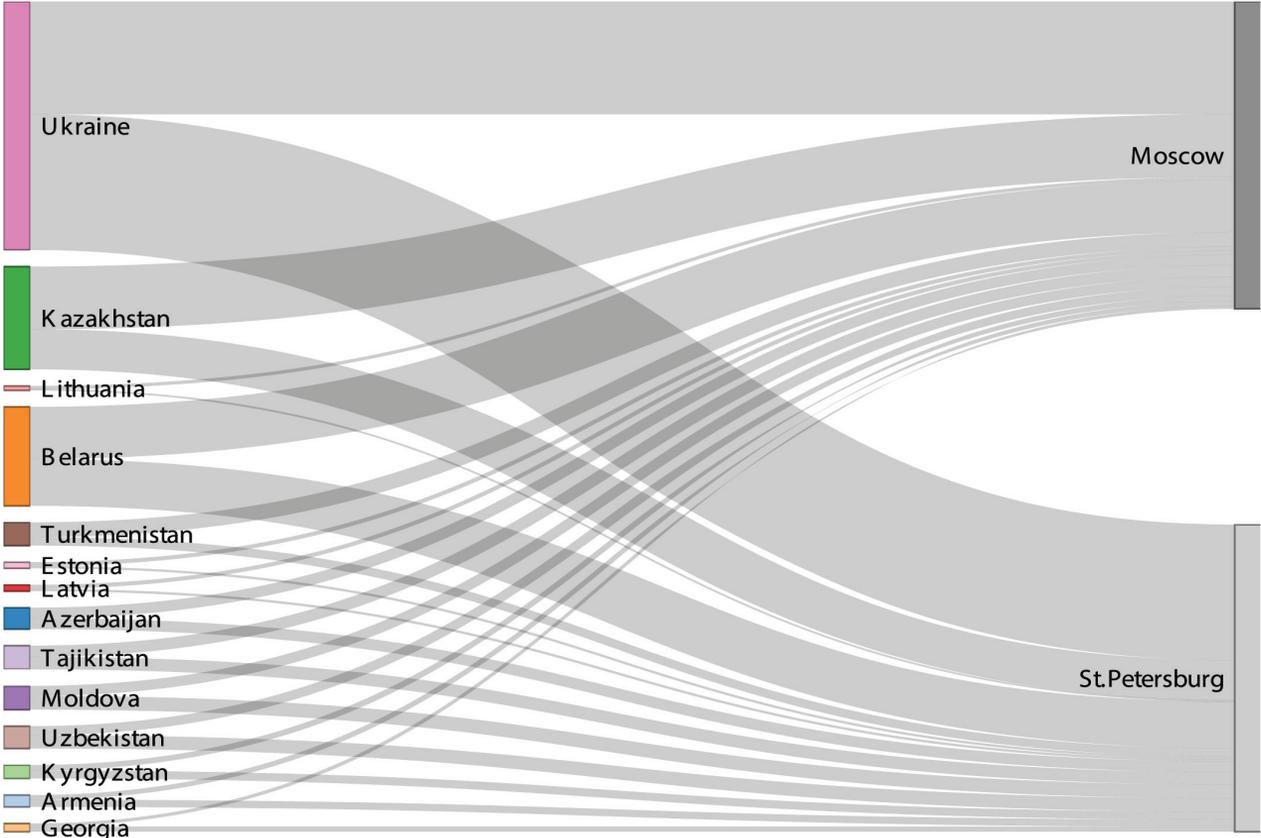
Student migration flows from independent ex-USSR countries to the major Russian cities
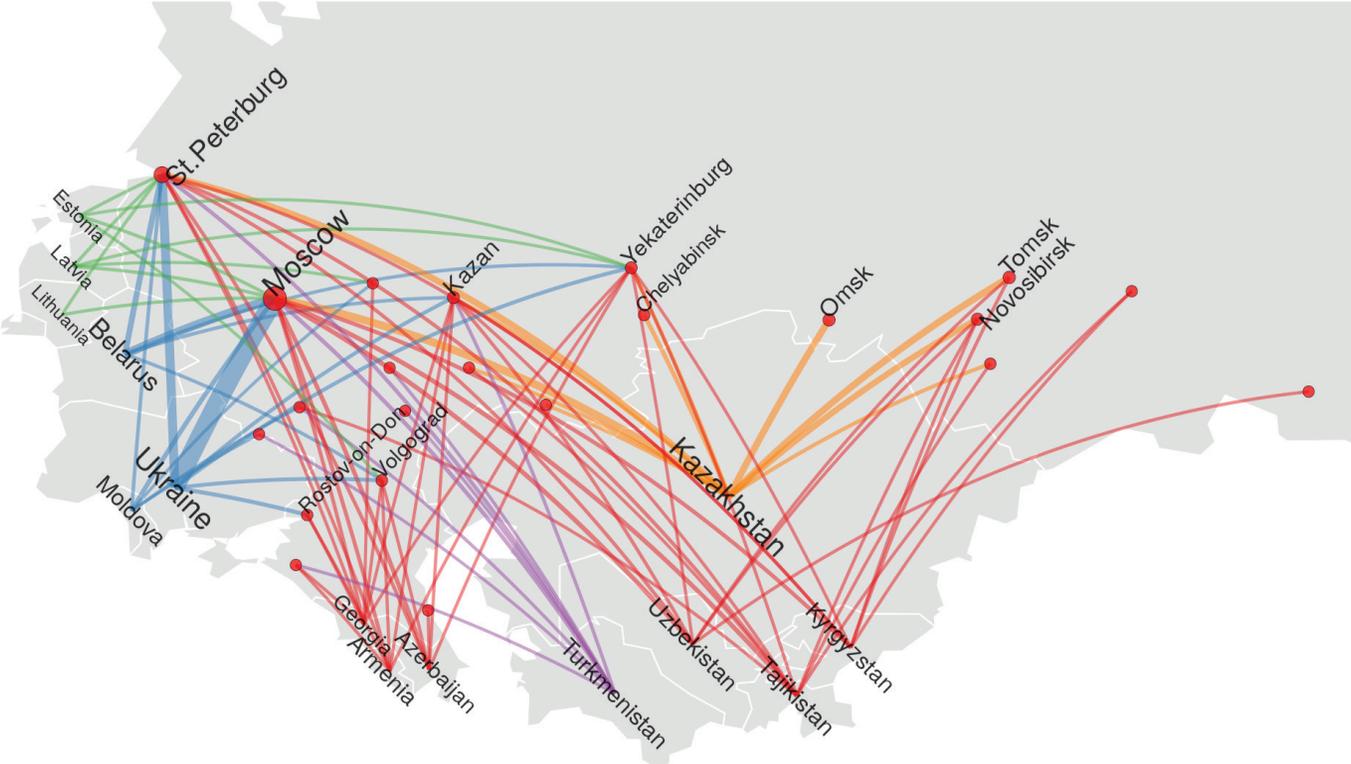
Studying in Russia
for independent ex-USSR countries

Many graduates from independent countries of ex-USSR choose Russian universities to continue their studies. The Russian government subsidises such students via distribution of quotas among Russian universities. However, students from Estonia and Kazakhstan do not take only these quotas into account. Stable student migration flows year after year follow their own socially organized routes, formed during the last twenty years almost independently of government decisions.

The most important factor — the prestige of the university and the city. Moscow, having the largest number of students in the country, also gathers the most of the students from all ex-USSR countries; St. Petersburg has the second place. As we can see on the visualization of the student flows for Moscow and St. Petersburg, both cities are very similar in terms of proportions, with some visible differences: for example, students from Ukraine go more to St. Petersburg, and those from Kazakhstan — to Moscow.

Tomsk and Kazan — two important centres of student migration from ex-USSR. Their comparison show importance not only of proximity, but of general cultural and religious environment and established sustainable network relationships with existing student diasporas, which support stable flows of educational migration. A lot of the students choose Kazan, apparently, due to cultural and religious reasons, with hopes for better integration and lower level of xenophobia. Tomsk gathers significantly more students from Kazakhstan and Kyrgyzstan, which, apart from geographical proximity, can be explained by the existence of the successful diasporal communities there.

Educational Migrations Flows from Russia to China
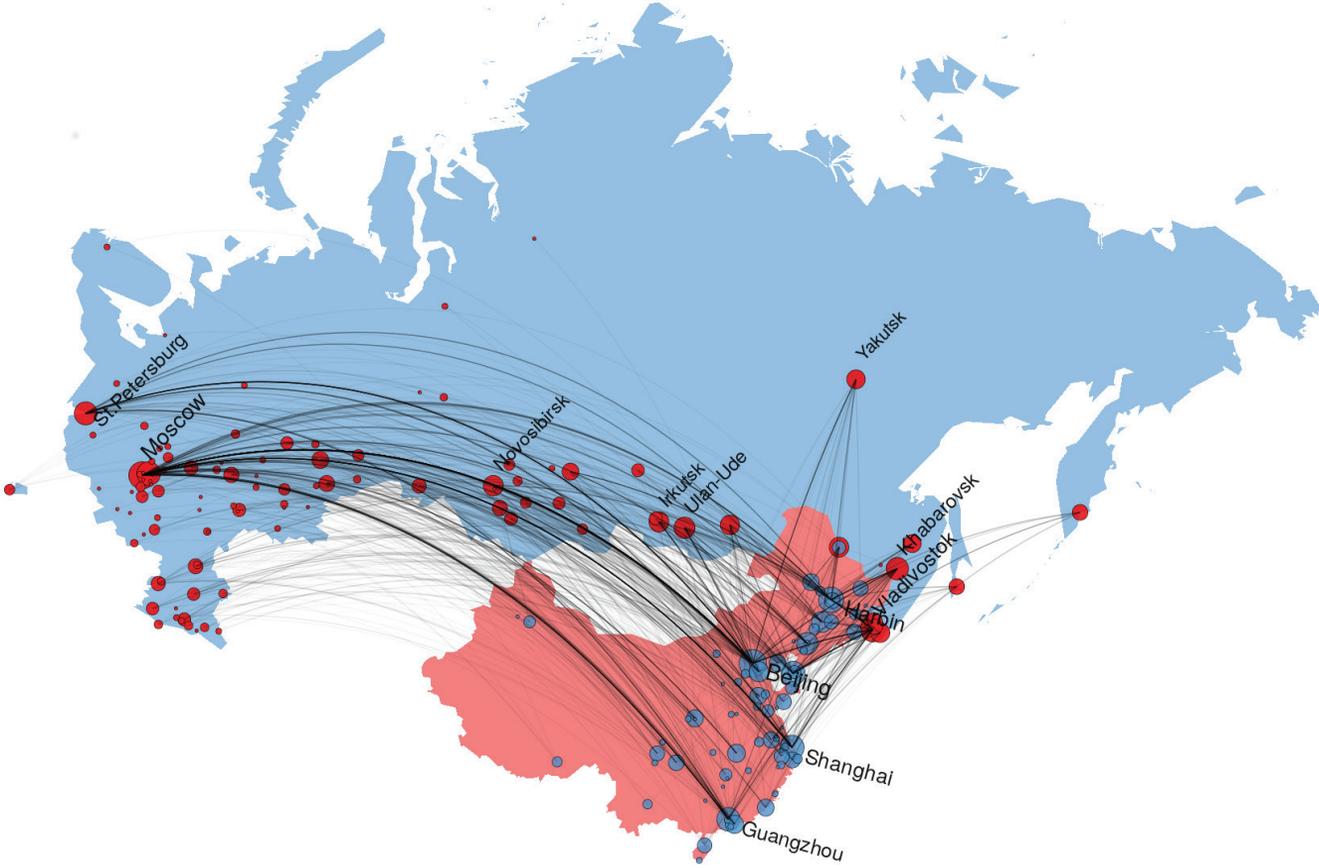
From Russia to China

In contrast to independent countries of ex-USSR, students from BRICS are not using VK as their social networking site, and it is impossible to use it for studying migration routes of international students. It has to be studied with the data from their most popular SNS — for Chinese students their migration to Russia would leave footprints on Renren SNS — but we do not have access to these data. VK data, though, allows us to estimate outward flows of «educational migrants» from Russia to China. As in the case of independent ex-USSR countries, geographical distance and perception of integration possibilities in local social environment play an important role in choosing destinations: we can see substantial student flows from Yakutsk and Ulan-Ude to Chinese cities.

Data Limitations

There is no silver bullet method, which would give ideal data and no measurement error. Social Networking Sites are no exception. There are thousands of fake profiles and thousands of people include fake data, i.e. imaginary universities or self-declared life in other countries or cities. There is also a selective self-representation phenomena, when one declare only postgraduate degree in more prestigious university, omitting home-town college. It is not easy to take into account all possible biases of profile data at such scale. However, we are sure that Social Networking Sites data provide an important picture at some level of approximation. Our future aim is an improvement of methodology and instruments, and detailed calibration based on available offline data.

New Opportunites

Digital research allows to collect data almost in real time and with fine grain details, and — even more important — to collect data unavailable by other means. Students freely choose cities and universities for further studies abroad with their destinations known only to their relatives and friends. The analysis of independent individual trajectories and the pathways formed by the multitude of such trajectories may help to improve admiinstrative decisions and aid in developing international programs in universities. Let us give just two examples. Russian government can use the patterns of self-determined student migration to improve the distribution of quotas for international students. Universities can use the knowledge of migration patterns of their graduates to make decision on international cooperation, e. g. which double degree programs with which universities would be on demand among their students.

Our Laboratory

Sociology of Science and Education Laboratory in HSE is engaged in research on social organization of schooling, social network analysis of adolescents, educational pathways of students, migration processes and education, international mobility and cooperation in research.

More about us: **http://slon.hse.ru/en/**

Data Science for All Students

In autumn 2015, NRU HSE introduces «major-minor» system for all undergraduate programs. From now on, each student in addition to a major (Economics or Sociology), will be taking a focused two-year program on additional subjects of her choosing. One of the minors in St. Petersburg campus is Data Science. In addition to scientific programming, big data technologies, and machine learning applications, the minor will engage students in multidisciplinary practical projects, such as «Digital Footprints of Educational Migrations» — the project we are presenting in this brochure.

http://electives.hse.ru/en/minor_data_spb/