

Salekhard, Norilsk, and Vorkuta. Common world practice is to create mega-cities by integrating neighboring cities within a 60–90 minute car drive. These new agglomerations can create larger integrated markets of labor, housing, and differentiated products.

The question is not only about stimulating inter-municipal cooperation, but doing so in a more powerful way, namely, by forming a common set of institutions (norms) for small businesses, unified rules for housing markets, credit markets, and a coordinated schedule of office hours in the municipal governments of one agglomeration.

Urban agglomerations can decrease the number of duplicative functions and save costs in the provision of

services, for instance, by creating common service centers, specialized medical centers, and logistical centers. Integrative forces towards agglomeration depend upon local conditions, and can be further stimulated by innovative zones, logistical complexes, or common recreation zones.

Another possibility for restructuring the economy of Russian Arctic cities is connected with business services and intellectual services, that is to add elements of the information economy, resource management, and consulting firms to the local economy. Increasingly, the future of the Arctic relies on developing the region's intellectual resources.

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ANALYSIS

## Intercity Networks as a Factor Promoting Arctic City Sustainability

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### Abstract

The migration flows of Russia's northern cities are often blamed for many of the problems associated with urban Arctic centers, yet the development of social networks resulting from these flows, an often-ignored consequence, is a notable factor contributing to their sustainability. Due to Russia's unique geography and political landscape, social networks are particularly essential in building economic and social sustainability. Using data describing youth migration compiled from the social networking site Vkontakte made it possible to establish the patterns of specific migration flows between a number of northern urban centers. Rather than being purely economic, migration flows appear to be strongly influenced by social networks. These networks help furnish northern cities with a number of return migrants, as well as influencing business networks. The typology and initial findings of this research helps to develop a platform from which further research into these trends can be launched.

### Introduction

Northern Russian cities, especially the largest ones, always experience significant migration outflows. However, inflows usually compensate for the outflows. This "flowing migration regime" is typically interpreted as a cause of instability in Arctic cities. In this paper, we will rethink emigration flows out of northern cities. Such flows do not destabilize the cities, but help to include northern cities into wider social networks. Accordingly, this dynamic helps to improve the sustainability of these urban centers.

### Theoretical Approach

Social networks are even more important in shaping economic interactions in Russia than they are in Europe

or the U.S. The vast size of the country, in conjunction with relatively low infrastructural and institutional development, makes connections between the regions much more expensive than in Europe and the United States. Moreover, as is typical for countries with economies in transition, Russia is characterized by the large role for informal communications and contracts. The transitional nature of the economy compels economic actors to use their social capital to reduce their transaction costs. Consequently, the involvement of urban residents in different social networks facilitates economic contacts for the city as a whole. Social networks shape inter-company contacts, innovation, and knowledge flows, and also influence local identity and the adoption of modern living standards.

Youth migrations are both the cause and the effect of the social networks. The institutional order and high transaction costs compel young Russians to use strong social ties to cut transaction costs while they move from one city to another. The data on migrations between cities shows us that the force of strong institutional ties is sometimes greater than the force of distance or of the agglomeration effect: some very distant and small cities are tied closely by migrations flows.

Taking these factors into consideration, social proximity between the cities must be discussed in addition to the more well-known factors of organizational proximity and geographical proximity. This type of proximity is marked by migration flows.

### Data and Methods

The data driving our research is the career information contained in the personal pages of [www.vk.com](http://www.vk.com), the most popular Russian online social network (this network connects over 70% of Russian youth), particularly data on birthplaces, schools, universities, and current residences. The data was extracted by specially designed software (developed by A. Yashunsky). We employed this method because of the lack of city-level migration data in official Russian statistics.

With the help of our colleague A. Yashunsky, we have collected 3,000 to 14,000 personal data files per city for people aged 20 to 29 years old (which is approximately 10–15% of the whole city population) for the following large Arctic cities: Noyabrsk (109,200 inhabitants, 15,050 personal records collected), Norilsk (177,300 and 14,832), Magadan (95,700 and 12,738), and also for two small Arctic cities: the city of Muravlenko (33,500 inhabitants and 5,221 personal records) and Gubkinsky (23,500 and 3,263).

### Results

The majority of youth migrants move from the North to cities where a kind of “Northern diaspora” forms. Primarily, they move to the largest Russian cities (“the group of capitals”): more often to St. Petersburg than to Moscow (Table 1) and also to the nearest macro-regional center, such as Novosibirsk or Ekaterinburg (Table 2), away from the investigated home city.

The leading role of St. Petersburg is not surprising. In the USSR, Leningrad (St. Petersburg) had strong institutional ties with the Russian North; many scientific, construction, and consulting organizations in Leningrad worked on the development of the North. Leningrad State University was the traditional place to get an education for those interested in the North. It appears that young people moving from the North to St. Petersburg follow their parents’ trajectories rather than

today’s economic opportunities. However, the lower cost of St. Petersburg real estate and education may play a role as well.

The choice of regional center is affected by 1: its administrative status (Tyumen’ is an administrative center for Noyabrsk, Muravlenko, and Gubkinsky, while Krasnoyarsk is the same for Norilsk); 2: prestige and economic opportunities; and 3: similar specialization. The second cause could be illustrated with the fact that very few people move to Omsk, which is just as close and well populated (1 million inhabitants) as Novosibirsk, but Novosibirsk develops more rapidly and has a better university, so it attracts more migrants. The third cause is illustrated by the example of Ufa, which has an oil university (Tyumen’ also has similar institutions), so it attracts migrants from the oil-producing Muravlenko and Gubkinsky. There is also a two-way migration here: there are a lot of people in Muravlenko and Gubkinsky who were born in Bashkortostan (Ufa is the capital of the Republic of Bashkortostan). So there are strong diaspora ties playing a role here. Finally, distance also plays a role: people from Magadan move to Vladivostok and Khabarovsk, which are the two nearest big cities to Magadan.

The second group of “recipient” cities include small and medium-sized “professional cities”: cities which are specialized in the same industries as the corresponding northern cities or in which there are opportunities to receive an education in disciplines related to such industries. For oil-producing Noyabrsk, Muravlenko, and Gubkinsky, such cities are those with organizations in the oil industry: Sterlitamak, Surgut, Almetyevsk, Nadym, Novy Urengoy, Salavat, etc.

The third is a group of “grandma towns.” Our research shows that the two-way migration flows between northern cities and some peripheral cities exists; some people were born in the periphery and moved to the North, others were born in the North and moved to specific peripheral cities. Such cities have a consistently negative migration balance and often are depressed regional centers, such as Kirov or Kurgan. We believe that in these cases we are observing young people moving from the North to the birthplace of their parents, utilizing their developed social networks.

The last group is a group of “comfortable cities.” Usually they are located in the southern part of Russia or near Moscow. The comfort factor here must be recognized not only in terms of climate or business conditions, but also through institutional conditions, which are very important, especially the purchase of real estate. They include special programs of resettlement or the presence of realtor firms specializing in real estate for former northerners (often they also have former north-

erners on their staff who are included in northern social networks). This results in the emergence of cities specializing in the provision of housing for former northerners. Across Russia, such specialized centers include Belgorod, Krasnodar, Yeysk, and some others.

Belgorod is a unique city: not less than 1% of all school graduates in Magadan and Norilsk, and not less than 0.5% of all school graduates in Noyabrsk, Muravlenko, and Gubkinsky ultimately settled in Belgorod.

Some “comfortable cities” are comfortable only for their own partners: for example, the small city of Alexandrovsk (Vladimir region) serves this function for former inhabitants of Magadan, but lacks connections to other northern centers.

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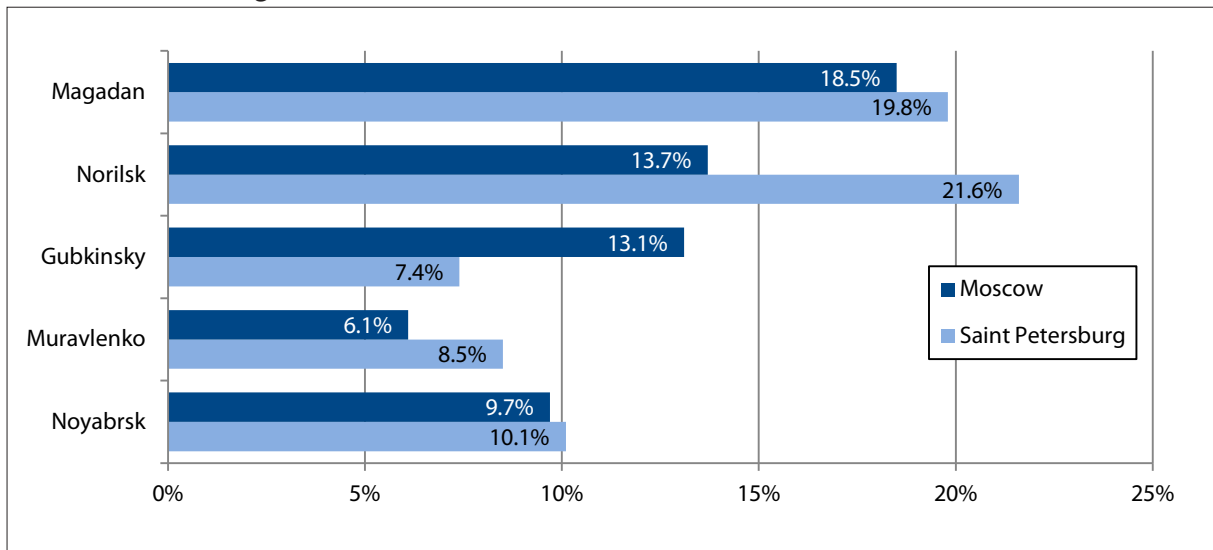
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**Conclusion**

A great portion of the entire migration flow from the Russian North is shaped by social ties and family traditions (for example, family members who study in the same university). Such migrations reproduce inter-city social networks.

Beyond the results listed here, we have data showing how the social ties between cities in the North and in the South act on the northern labor market, firm contracting, innovation flows, and city sustainability. This data provides a rich field for further research.

**Figure 1: Youth Northern “Diaspora” in Moscow and St. Petersburg (Percentage Of the Total Number of Youth Who Moved)**



**Table 1: Youth Northern “Diaspora” in Moscow and St. Petersburg**

Youth migrants moved to:	Moved from the cities of:									
	Noyabrsk		Muravlenko		Gubkinsky		Norilsk		Magadan	
	%*	Total	%*	Total	%*	Total	%*	Total	%*	Total
Saint Petersburg	10.1	373	8.5	190	7.4	98	21.6	1,155	19.8	846
Moscow	9.7	359	6.1	135	13.1	175	13.7	735	18.5	791

\*Of the total number of youth who moved