Migration and Nuptiality in Course of Revitalization the Economic Development of Yakutia

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Abstract. Over the period of semicentenial development the economic processes in Yakutia have been accompanied by large-scale migratory population movement. An active exploration of new territories resulted in migration to become a basic population change component substantially defining population age structure, birth and death rate in the region. The article considers the interrelation of migratory inflow and nuptiality changes in local territories of intensive economic development. The correlation analysis of time-series data is provided. The hypothesis is tested of existing one-year time log between a migrant arrival and wedding. It was discovered that the periods of intensified regional economic development accompanied by large-scale inflow of migrants, featured very high strength of relationship between the stream of arrivals and marriage registrations. In particular, Pearson’s pair correlation coefficient between the arrivals and marriages made up 0.885 in West Yakutia in 1960th, and 0.962 - in South Yakutia in 1970th. The revealed relationship was largely determined by a favorable proportion between the number of persons in marriage age among migrants and their commitment towards long stay in Yakutia, including their intentions to establish a family. The analysis of dynamic numbers has shown that the deep social and economic, political changes of the 1990th in the region were accompanied by radical change of migration vector and the increase in migratory seasonal component. These factors resulted in a considerably falling migratory rate, reduced or even discontinued interrelation between arrival rates and officially registered marriages.

1 Introduction

Yakutia as a region of local exploration of the richest natural resource endowments is an example of steady dependence of demographic processes from migration rates. The transforming strategy of Republican economic development has repeatedly led to the changing directions and intensity of migratory flows. The purpose of the given article is to show the interrelations of migratory inflow scales and marital processes featuring local territories in the Republics of Sakha (Yakutia) during different periods of their economic development.

2 Literature Review

The ability of migration processes to immediately change in reaction to social and economic, political and other changes in the country, especially in its northern regions is a subject of permanent attention of experts and scientists [2; 5; 6; 10]. Thus the migrant is considered, first of all, as potential labor force source in national economic research publications [3; 4; 13].

In foreign demographic and economic research, the problems of interaction between migration and various demographic processes (marital and divorce rates, birth rate) is analyzed, as well as the impact of migration on family life course, family capital, job search [15; 16; 17; 18; 19].

The studies devoted to population migration in Yakutia examine this process evolution, quantitative parameters of population migratory movement, the direction of the flows, structural characteristics of migrants [1; 7; 8; 9; 12; 14; 20]. Admitting that the urgent study of various aspects of population movement is increasingly necessary in conditions of unfavorable demographic change, however those studies do not give a proper attention to the impact of migratory flows on marital rate.
3 Methods
The given research is based on the application of correlation analysis of time-series distributions of arrivals and marital rates in 1957-2011. The hypothesis about high strength of existing relationship between migratory arrival and intensity of marital rate in the period of intensified local economic development and discontinued correlated relations between considered processes in the time of a reduced economic activity is made. The presence of one-year time log between arrival and possible registered marriage is thus supposed.

The research is based on official statistics provided by Federal Agency of State Statistics of the Russian Federation (Rosstat), Rosstat Territorial Agency of the Republic of Sakha (Yakutia), as well as on the data of the State Archive of the Republics of Sakha (Yakutia).

4 Results and Discussion
The migration factor has become significant for the population of Yakutia formation since the mid 1950th that it was connected with the mass inflow of working labor to its west regions where the kimberlite pipe "Mir" exploration was begun. The long-term migration turnover to Mirninskii area was increased four times by the early 1960th exceeding 10 thousand people, including arrivals – 7.8 thousand. In the following years, about 9 thousand people in active marital age arrived resulting in objectively increased number of registered marriages (Figure 1a). The analysis of correlation relation between arrivals and marital rates in the period of active local economic development revealed high degree of relationship strength. The Pearson’s pair correlation coefficient between arrival and marital rate made up 0.885 in Mirninskii area in 1957-1965. The established relationship is statistically valid, correlation is significant at the 0.01 level (p=0.000).

Since early 1990th a considerable migratory outflow of the population has been observed in Yakutia, as well as in other northern and eastern regions of Russia. Social and economic transformations in the country, an economic crisis resulted in plants shutdowns leading to large-scale population outflow [1; 7; 20]. The negative long-term migration balance has been established everywhere in the region in the last decade of last century, and this trend remained in Mirninskii area in 2000th. Thus labor force migration has stable positive balance. The new impulse of local economic development is related to the activity of joint-stock company "ALROSA". As a rule, the basic part of labor migrants consists of the persons of young marriable age. The given factor in Mirninskii area provides the remaining and enough expressed positive correlation strength of relationships between arrival flows and the number of registered marriages in 2000-2011 (Fig. 1b). The Pearson’s pair correlation coefficient made up 0.766.

![Fig. 1. The number of arrivals and marriages in Mirninskii area, 1957-1965 (a), 2000-2011 (b).](image-url)
The interrelation of migration and marital processes in Neryungrinskii area is also rather indicative. A territorial economic development in this region took place in a complicated way in the mid-seventies of the last century. An important factor attracting the population in this location related to the simultaneous development of different social infrastructure enterprises. Living setting at which the migrants were perceived as conquerors of severe, earlier uninhabited Southern Yakutia, the plans of the development of a large-scale territorial and production complex and of resident population formation provided the basis for the development and expansion of marriage market. The Pearson’s pair correlation coefficient was equal to 0.962 in Neryungrinskii area in 1970th. And the observable trend of marital processes, featuring a one-year time log, practically repeated the number of population arrivals in the area (Fig. 2a).

Other scenarios of considered interrelations have arisen in a new century. Since the early 2000th there was an essential decreasing inflow of arriving population observed in both mentioned regions. So, in Mirninskii area this inflow was reduced in 2.8 times, thus labor migration still had a positive balance. In Neryungrinskii area the general reduction of arrivals made up 2.4 times. The labor force demand sharply went down in the Neryungrinskii coal mine, therefore labor migration balance became negative. The similarity of marriage situation in the given areas concerned with small fluctuations of concluded marriages number as well. Thus a steady correlation strength of relationships between arrivals and marital rate was revealed in Mirninskii area, and in Neryungrinskii area the similar interrelation was not observed (Fig. 2b). In other words, in this area the migratory factor of marriage market development reached its limits, and the increase in the number of concluded marriages was determined by the impact of favorable enough local proportion between potential grooms and brides numbers. According to the 2010 All-Russia population census 30 % of the population were born in Neryungrinskii area, and 40 % of inhabitants lived there more than 20 years.

In the long term perspective the plans for Neryungrinskii area development feature the creation of the territory of advanced social and economic development called «Southern Yakutia» that should attract migrants as well and will probably reset the discontinued correlation strength of relationships between arrivals and marital rate. The establishment of two investment sites on the basis of long wall sets of equipment and mining complexes - "Imaginskii" and "Denisovskii" - is again mainly focused on the attraction of labor migrants from outside Yakutia. However social and demographic characteristics of potential migrants, their intentions in respect of terms of their stay, real migratory inflow volume are unknown, as well as whether there will be a long-term migration as in the last century, or labor attraction will be limited only to rotational team form.
5 Conclusion
The active economic development of northern territories accompanied by large-scale population inflow from outside Yakutia, expands the marriage market and leads to a direct strong relationships between arrival and marital rates that is confirmed by high Peason’s pair correlation coefficient. The revealed dependence is largely defined by a favorable proportion of persons in marriable age among migrants, their intentions towards long stay in Yakutia and establishment of family in a residing place. Direct and strong enough relationships even between considerably reduced inflows of migrants and the number of registered marriages remain in the period of stable enough economic development (Mirninsk area). In the time of lowering economic activity (Neryungrinsk area). In the time of lowering economic activity (Neryungrinsk area) the number of registered marriages is not revealed.

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