

ECONOMETRIC ANALYSIS OF INTERREGIONAL MIGRATION IN RUSSIA

Valimukhametova E. R, Ph D; Lackman I. A., Ph D

Ufa State Aviation Technical University
Ufa, Russia

The analysis of migration flows in different countries or regions can describe the level of its socio-economic development. High level of immigration is usually observed in the regions where the standard of living is higher. Migration is one of the most difficult socio-economic processes impacted by various political, economic and social factors. Migration shapes the demographic structure of the country's population, and also determines the state of regional and local labor markets. For successful implementation of social and economic policy, it is necessary to predict the magnitude and direction of migration flows, and also it is necessary to understand the features of interregional migration and its determinants, as well as to understand the consequences of migration.

In this paper we investigate the migration flows in Russian regions using Russian regional data for the period 2010-2015. We analyze the impact of migration on income and unemployment rate. As we can see in the picture above there are significant differences in migration flows between regions in the Russian Federation. Less significant interregional differences are among the unemployment rate and income.

To investigate spatial effects among interregional dependencies we used methods of spatial econometrics. In the present paper, a spatiotemporal modeling approach in the form of a spatial panel structure is adopted. This approach includes calculating spatial local and global indices, different types of spatial matrixes and estimating various spatial panel models (SAR, SEM, SDM, SAC, etc.).

There are many empirical papers on spatial modeling of interregional migration, for example Vakulenko E.S. [1] investigates factors of internal migration in Russia regions, Etzo I. explores the determinants of the recent interregional migration flows in Italy [2] and Sarra A.L. and Signore M. describe the dynamic origin-constrained spatial interaction model applied to Poland's inter-provincial migration [3].

The two models – SAR and SEM – are comparable in terms of their AIC, squared-R, and variance, and therefore, on purely statistical grounds, SEA model seems to provide higher level of goodness of fit. For this reason, we concentrate our discussion on the SEM model [4].

The fixed effects spatial error model provides a number of valuable insights. Reduction of unemployment rate is widely acknowledged to have a strong impact on the increase in migration, because low unemployment is the synonym to high standard of living. The results indicate that as unemployment rate grows, the migration rate tend to decrease, and population income associates positively with the migration rate, suggesting that bigger amount of money can help to improve economic development in particular region and attract immigrants.

Migration is an indicator of considerable socio-economic development of particular region, it is also an essential indicator of the freedom of choice that potential immigrants will have when they decide to move to a neighboring territory.

The objective of this paper has been to investigate the factors that influence the variation of the migration rate in Russian regions in the period 2010-2015. In terms of the methods, we estimated two panel models with spatial fixed effects (SEA) and spatial dependence (SAR). Including spatial effects in the analysis helps to avoid misleading inference caused by inefficient coefficients.

References

1. Vakulenko E. S. «Econometric analysis of factors of internal migration in Russia Regional Research of Russia». Applied Econometrics, 2016. Vol. 6. No. 4. P. 344-356.
2. Etzo, I. «The determinants of the recent interregional migration flows in Italy: a panel data analysis». J. Reg. Science, 2011. Vol. 51, no. 5, pp. 948–966.
3. Sarra, A.L. and Signore, M. «A dynamic origin-constrained spatial interaction model applied to Poland's inter-provincial migration». Spatial Econometric Analysis, 2010. Vol. 5, no. 1.
4. Ana Maria Barufi1, Eduardo Haddad, Antonio Paez. Infant mortality in Brazil, 1980-2000: A spatial panel data analysis. BMC Public Health, 2012. Vol. 12. P. 181-196.