



VARIATION OF SURNAMES AND MIGRATION IN THE RUSSIAN REGIONS

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Voronezh - 2019

DATA

Phone subscriber data

- ✓ As of January 2019
- ✓ 29 million persons
- ✓ 380 thousands surnames

VARIATION OF SURNAMES



$$\textit{Variation} = \frac{\textit{Number of the unique surnames}}{\textit{Number of subscribers in the region}}$$

It highly depends on population

In a large region, we expect a large variety of surnames, but the above formula negates it because of the high denominator.

VARIATION OF SURNAMES



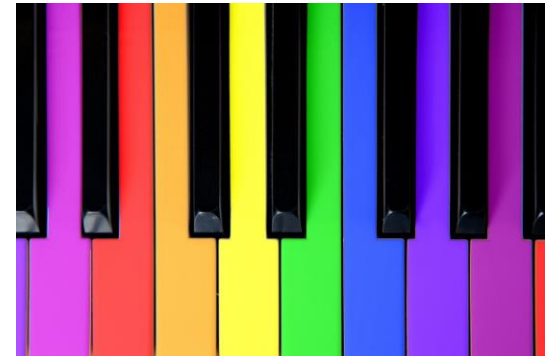
There are 30 pupils in the class. If they have non-repeating surnames, then there are 30 different surnames. $30 \text{ surnames} / 30 \text{ pupils} = 1$.

If there are 16 Ivanovs, then we get 15 different surnames (14 are not Ivanovs + Ivanov). $15 / 30 = 0.5$. It means that the larger the index, the more variation of surnames.

When the number of pupils is the same, there are no problems with comparing the indices. But if the classes are different by number of pupils, the index does not work.

How to calculate the variation that could be compared between different classes?

VARIATION OF SURNAMES



The smallest region has 7000 subscribers.

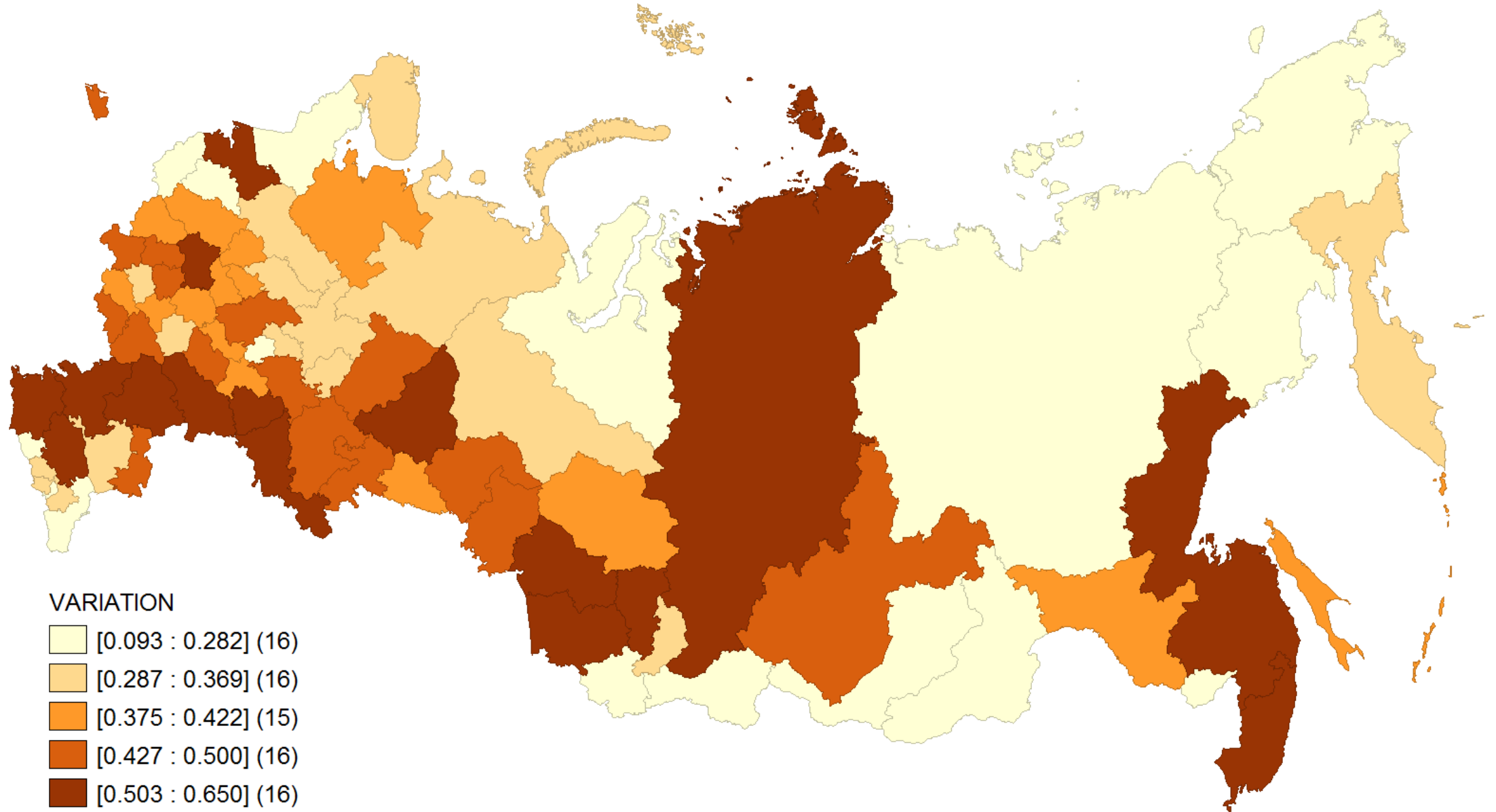
We are randomly picking up 7000 subscribers from each region.

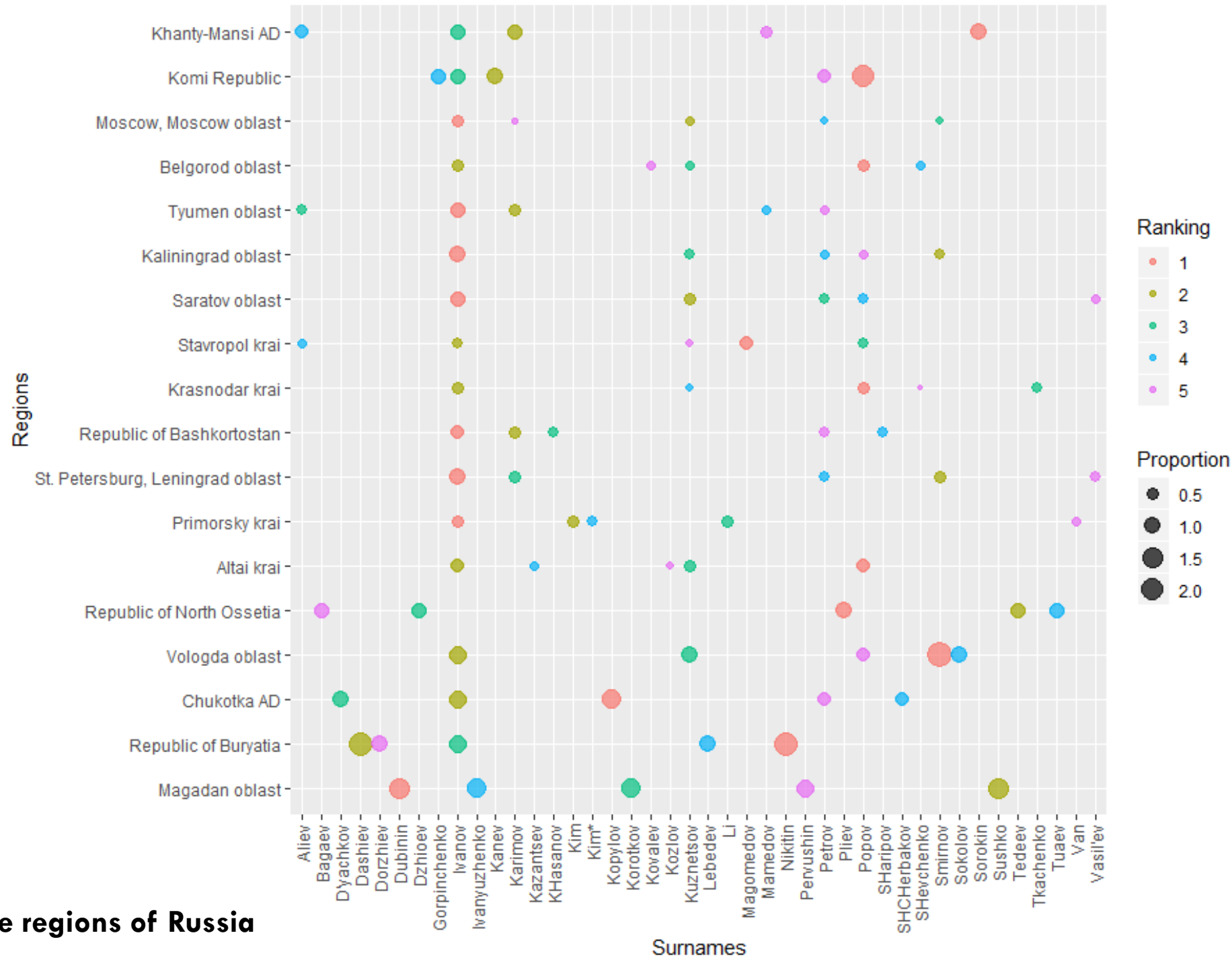
We repeat the procedure one thousand times.

We calculate the average and median number of distinctive surnames in each region.

We divide the median to the subsample value (seven thousand).

VARIATION OF SURNAMES





The top-5 surnames in some regions of Russia

UFIMSKAYA STREET ON THE MAP OF RUSSIA

Уфимская улица

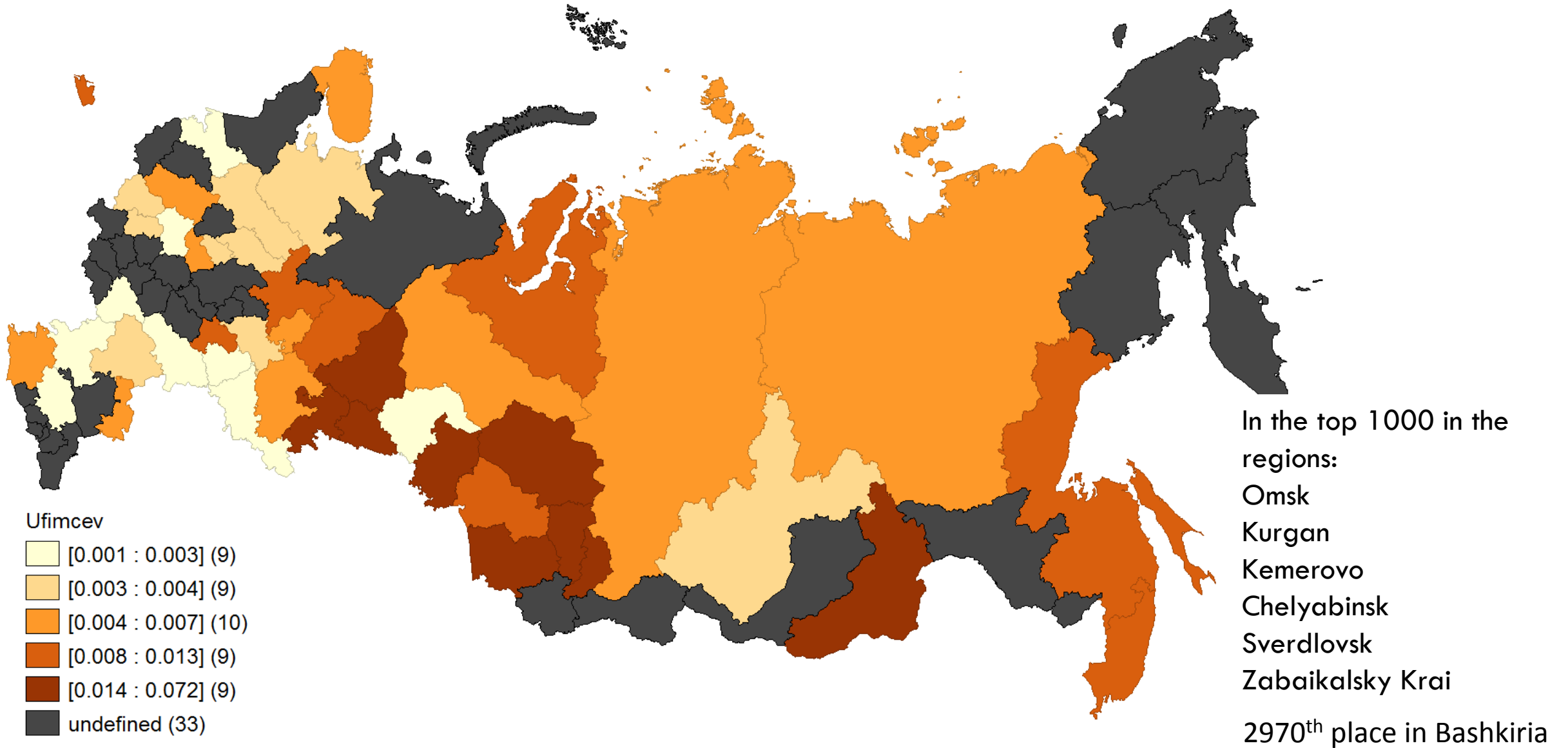
Результаты могут быть неточными

- Уфимская улица**
Салават, Республика Башкортостан, Россия
- Уфимская улица**
Нижний Новгород, Россия
- Уфимская улица**
Аша, Челябинская область, Россия
- Уфимская улица**
Санкт-Петербург, Россия
- Уфимская улица**
село санатория Алкино, Чишминский район, Республика Башкортостан, Россия
- Уфимская улица**
Нефтекамск, Республика Башкортостан, Россия
- Уфимская улица**

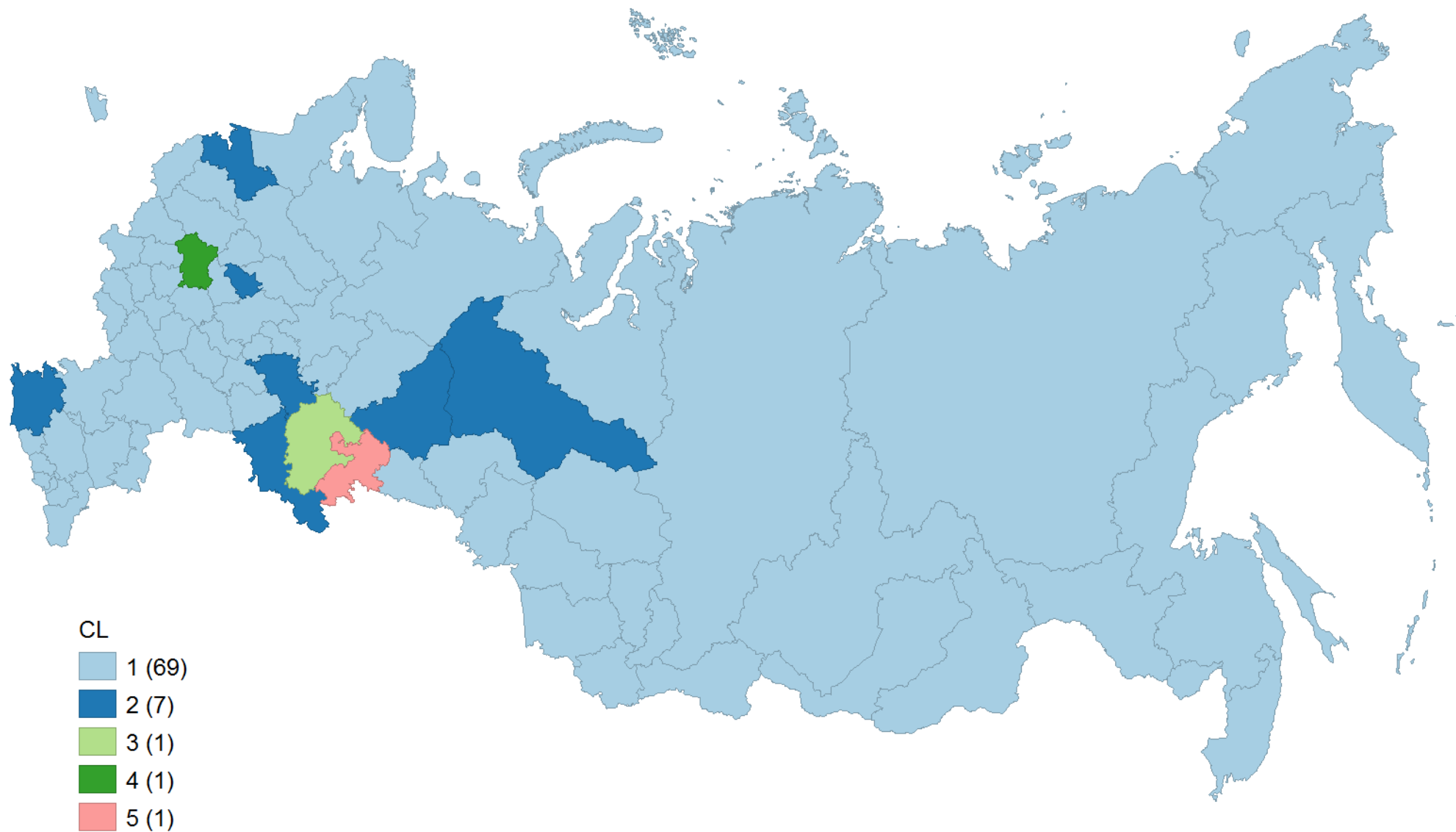
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UFIMTSEV SURNAME DISTRIBUTION



COMMUNICATIONAL TIES OF THE REPUBLIC OF BASHKORTOSTAN



CONCLUSIONS

The regions with a high variety of surnames are located within the Russian main belt of settlement, which has fostered a more active exchange and admixture of the population.

Our analysis has shown a diverse palette of surnames in Russia, which is determined by

- ❖ various geographical landscapes,
- ❖ historical pathways of settlement,
- ❖ ethnic, cultural and religious plurality.