

## **Intensity of the Kaliningrad Region's Migration Links with Russian Territories and Former Soviet Republics in 1992-2013**

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### **Abstract**

*Article addresses changes in the Kaliningrad region's migration links with Russian territories and former Soviet republics in 1992-2013. An assessment is based on calculating the coefficient of migration link intensity (CMLI). Necessary information is derived from the Kaliningrad statistic service's annual data on regional migration inflow and outflow by source and target territory since 1992. Principal migration areas are identified through analysing migration links of high and increased intensity. An analysis of the location and development of principal areas of regional incoming and outgoing migration shows that two new principal areas emerged in former Soviet republics – in Kazakhstan, Kyrgyzstan and Armenia – in the 1990-2000s. These areas play an important role in the formation of both migration inflows and outflows. The Baltics – once a principal migration area – has changed its profile from a migrant 'supplier' to 'consumer'. At the same period the interregional links with Russian regions were characterized by both levelling the intensity of migration links and creation of new migratory attractive zones: the territory of West Siberian economic region as an inflow zone, and Krasnodar territory and Yamalo-Nenetsky autonomous area as outflow zones.*

**Keywords:** migration links, migration coefficient, link intensity, principal migration area

### **1. Introduction**

In 1992-2013, the migration field of the Kaliningrad region went through major qualitative and quantitative changes. The 1990s active migration phase characterised by large-scale migration flows dominated by forced migrants and refugees from beyond Russia was followed by a more moderate 2000s phase marked by a significant contribution of post-Soviet states to the positive net migration rate and the involvement of Russian territories into the migration exchange with the region. This change is accounted for not only by national political and economic transformations, but also by the particularities of the region's socioeconomic development. Moreover, a certain contribution was made by reforms in the national and regional legislative systems regulating migration processes. These factors shaped the negative trends in the intensity of interregional and international (post-Soviet states) migration links since 1998 until 2002-2003.

### **2. Theoretical Overview**

Migration links between the Kaliningrad and other Russian regions, as well as post-Soviet states, often constitute a focus of research. The geography of the enclave's migration flows has been addressed by Prof G.M. Fedorov (see Fedorov, 2001), Prof Yu.V. Kostyashov (see Kostyashov, 1998; Kostyashov, 2008), Dr L.L. Emelyanova (see Emelyanova, 2006; Emelyanova, 2010; Emelyanova, 2005, Emelyanova, 2008), Dr E.S. Fidrya (see Fidrya & Emelyanova, 2014), Prof E.P. Zimovina (see Zimovina, 2014), and other Kaliningrad scholars. At the national level, geographical analyses of the migration link intensity – also for the Kaliningrad region – have been carried out by members of the Moscow school of geographical thought, namely, L.L. Rybakovskiy (see Rybakovskiy, 1973b), N.V. Mkrtchyan (see Mkrtchyan, 1997), L.B. Karachurina (see Karachurina, 1999), and others. However, the changes in and intensity of the regions' migration links with the other Russian territories and former USSR in the post-Soviet (1990-1999) and modern (2000-2013) periods remains little studied.

### **3. Methodology**

The study uses the coefficient of interregional migration link intensity (CMLI) to assess the intensity of migration links 'cleansed' of the influence of population changes in source territories. This coefficient was developed and introduced by

the Russian geographer L.L. Rybakovskiy in the late 1970s (see Rybakovskiy, 1973a; Rybakovskiy, 1973b). It makes it possible to identify the true value of migration links. Here, the coefficient is used not only to analyse interregional links but also to examine those between the Kaliningrad region and post-Soviet states. The methodology of CMLI calculation is used in the works of L.L. Rybakovskiy (see Rybakovskiy, 1973c), L.B. Karachurina (see Karachurina, 1999), N.V. Mkrtchyan (see Mkrtchyan, 1997), O.L. Rybakovskiy (see Rybakovskiy, 2013; Rybakovskiy, 2008), V.V. Rudnik (see Rudnik, 2006), and others.

The coefficient of interregional migration link intensity is calculated using the following formula (see Rybakovskiy, 2001):

$$K_{ij} = \frac{V_{ij}}{d_i} = \frac{M_{ij}}{\sum_{l=1}^m M_{il}} \cdot \frac{S_i}{\sum_{l=1}^m S_l} = \frac{M_{ij} \sum_{l=1}^m S_l}{S_i \sum_{l=1}^m M_{il}} \quad (1)$$

where  $K_{ij}$  is the coefficient of interregional migration link intensity (CMLI)

$V_{ij}$  the velocity of migration flow from the  $i^{\text{th}}$  source district to the  $j^{\text{th}}$  target district

$d_i$  the proportion of the  $i^{\text{th}}$  source district in the total population of all districts

$M_{ij}$  the size of incoming population from the  $i^{\text{th}}$  district to the  $j^{\text{th}}$  target district

$\sum M_{ij}$  the size of incoming population in the  $j^{\text{th}}$  target district

$S_i$  the size of population of the  $i^{\text{th}}$  source district

$\sum S_i$  the size of population of all  $i^{\text{th}}$  source districts

L.L. Rybakovskiy' CMLI classification by the coefficient value is used in analysing and structuring the migration links (see Rybakovskiy, 1973c):

- insignificant values – below 0.39;
- noticeable values – 0.40-0.79;
- average values – 0.80-1.24;
- increased values – 1.25-2.49;
- high values – above 2.50.

Only CLMI values of 1.25 and higher are considered in identifying 'principal migration areas'. A 'principal migration area' is a territory characterised by a high intensity of migration links with a certain centre of attraction (for incoming flows) or a centre of diffusion (outgoing flows) (Karachurina, 1999).

#### 4. Findings

In the 1990s, the development of the Kaliningrad region's migration links was characterised by rather high CMLIs with a number of territories. In the 1990s, the region's incoming migration links exhibited high values with seven regions and high values with fourteen. Two and three post-Soviet states demonstrated high and increased values of migration links with the Kaliningrad region respectively. With almost all regions of the Russian Federation and post-Soviet states, the Kaliningrad region developed either insignificant or noticeable (neutral) migration links.

In the 2000s, despite a general decrease in migration, the intensity of incoming migration links with the other Russian regions grew. If the number of regions demonstrating high intensity values dropped to six, increased values of migration links were observed with 19 regions (a 35% increase), whereas the proportion of territories showing neutral values reduced to 37%. It is worth stressing that – as well as 10 years ago – the lowest values were characteristic of the region's links with Russian national republics – Dagestan, Tatarstan, Bashkortostan, Chuvashia, Udmurtia, Altai, and Tyva. The intensity of migration links with the former Soviet Union decreased, whereas the number of territories showing high and increased values of migration links reduced to three.

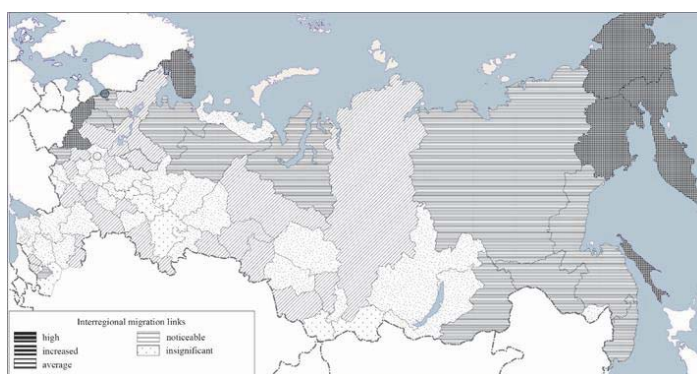
An assessment of the region's migration links demonstrates that several principal incoming migration areas developed in the 1990s (fig. 1, fig. 3):

- the vast Eastern compact area (the Magadan, Sakhalin, and Amur regions, Kamchatka, Primorsky, Khabarovsk, and Zabaikalsk territories, Chukotka autonomous area, the republic of Sakha) is characterised by a high intensity of migration links with an average CMLI value of 4.44;
- the Northern compact zone (the Murmansk and Arkhangelsk regions and the Republic of Komi) with an average CMLI value of 3.90;
- the Western compact zone (the Pskov, Smolensk, Leningrad, Bryansk, and Novgorod regions and the city of Saint Petersburg), an average value of 2.11;
- the isolated areas: the Chechen Republic and the Yamalo-Nenetsky autonomous area.

In the 2000s, the region's principal areas of incoming migration underwent significant changes (fig. 2):

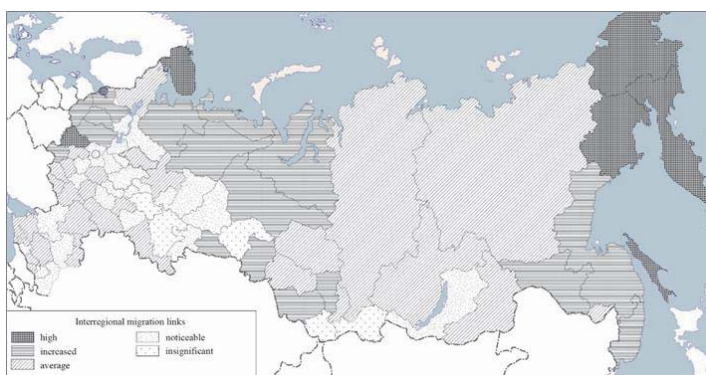
- the Eastern compact area (the Kamchatka, Primorskiy, Khabarovsk territories, Magadan, Sakhalin, and Amur regions and the Chukotka autonomous area) decreased through a reduction in the migration links with Yakutia and Zabaikalsk territory. The average intensity dropped to 4.20;
- the Northern compact area (the Murmansk, and Arkhangelsk regions and the Republic of Komi) expanded through the increasing intensity of migration links with the Nenets autonomous region. The area's average CMLI value is 3.41;
- the Western compact area (the Smolensk, Pskov, Novgorod, Leningrad, and Bryansk regions and the city of Saint Petersburg) was characterised by a decreasing migration link intensity plummeting to 1.76;
- the West Siberia compact area (the Kurgan, Omsk, Kemerovo regions, Altai territory, the Khanty-Mansiysk and Yamal-Nenetsky autonomous areas) is a new principal migration area, which developed from the isolated principal migration area of the Yamalo-Nenetsky autonomous area;
- the isolated migration area in the Tver region is a new isolated principal migration area.

The isolated area of the Chechen Republic observed in the 1990s did not develop into a principal area in the following decade.



**Figure 1.** The Kaliningrad region's coefficient of intensity of incoming migration links with the other Russian regions (1992-2002)

Calculated and compiled by the author based on (State..., 2002a; Federal..., 2001; Federal ..., 2002b; Federal ..., 2003).



**Figure 2.** The Kaliningrad region's coefficient of intensity of outgoing migration links with the other Russian regions (2003-2013)

Calculated and compiled by the author based on (Federal..., 2014b; Federal..., 2004b; Federal..., 2005; Federal..., 2006; Federal..., 2007; Federal..., 2008b; Federal..., 2009; Federal..., 2010; Federal..., 2011; Federal..., 2012b; Federal..., 2013; Federal..., 2014c)



**Figure 3.** Russian regions as of 01.01.2014

Alongside principal migration areas in the Russian Federation, two principal incoming migration areas developed in the former Soviet republics. They constitute the Baltic compact area (Latvia, Estonia, and Lithuania) with an average CMLI value of 3.05 and the Central Asian compact area (Kazakhstan and Kyrgyzstan) with an average CMLI of 2.53 (fig. 4, fig. 6). The first principal migration area emerged as early as 1969 and second one in the 1990s. It is worth stressing the case of Belarus, which never constituted an individual migration area and is gradually losing its significance in the Kaliningrad region's migration field. However, over a long time, it was one of the region's centres of diffusion surpassed only by the Baltics (Rybakovskiy, 1973a; Karachurina, 1999).

In the first decade of the 21<sup>st</sup> century, the Baltic compact area 'self-destructed' against the background of increasing migration links with the Central Asian compact area (Kyrgyzstan and Kazakhstan) and the emergence of an isolated compact area in Armenia (fig. 5). This was a result, firstly, of the exhaustion of the Baltics' migration potential – almost all ethnic Russians willing to return to Russia had done so by the early 2000s, and, secondly, of the reorientation of Baltic migration from the East to the West as the countries acceded to the EU in 2004 (Göler et al., 2014).



**Figure 4.** The Kaliningrad region's coefficient of intensity of incoming migration links with post-Soviet states (1992-2002) Calculated and compiled by the author based on (State..., Federal..., 2001; Federal ..., 2002b; Federal ..., 2003; The United..., 1994; The United..., 2003).



**Figure 5.** Coefficient of migration link intensity of Kaliningrad region with the neighbouring countries upon arrival (2003-2013)

Calculated and compiled by the author based on (Federal..., 2004b; Federal..., 2005; Federal..., 2006; Federal..., 2007; Federal..., 2008b; Federal..., 2009; Federal..., 2010; Federal..., 2011; Federal..., 2012b; Federal..., 2013; Federal..., 2014c; The United..., 2012; The United..., 2013).



**Figure 6.** Post-Soviet states as of 01.01. 2014

As to outgoing migration links, only 19 Russian regions and two post-Soviet states demonstrated high and increased values in the 1990s. Migration links were neutral with 45% of Russian territories and 57% of former Soviet republics. In the following decade, the number of Russian regions demonstrating high and increased migration link values did not change, whereas that of post-Soviet states increased to six. Most Russian regions and former Soviet Republics had insignificant and noticeable migration links with the region. Most regions with insignificant migration links were Russia's national republics.

In the 1990s, the Kaliningrad region developed several principal outgoing migration areas in Russia (fig. 7):

- the Northern compact area (Murmansk region, Republic of Karelia) with an average CMLI value of 3.17;
- the Eastern compact area (the Kamchatka territory, Magadan, and Sakhalin regions and the Chukotka autonomous area) with an average CMLI value of 2.94;



- the Western compact area (the Smolensk, Leningrad, Pskov, Novgorod, and Bryansk regions and the city of Saint Petersburg) with an average CMLI value of 2.83;
- the Central compact area (Vladimir, Tver, Kaluga, Yaroslavl, Voronezh, Belgorod, and Moscow regions), an average CMLI value of 1.37;
- In the 2000s, the principal outgoing migration areas underwent significant changes (fig. 8):
- the Eastern compact area (the Kamchatka, and Primorsky territories, Magadan, and Sakhalin regions and the Chukotka autonomous area) increased the average migration link intensity to a CMLI of 3.35 through incorporating the Primorsky territory;
- the Northern compact area (Murmansk and Arkhangelsk regions, Republic of Karelia) also expanded, however, the average migration link intensity dropped to 2.93.
- the Western compact area (Leningrad, Smolensk, Pskov, Novgorod and Bryansk regions and the city of Saint Petersburg) reduced the average CMLI to 2.27.

The Central compact area divided into two isolated areas of the Belgorod and Moscow regions. Additional isolated areas emerged in the Yamalo-Nenetsky autonomous area, and Krasnodar region.



**Figure 7.** The Kaliningrad region's coefficient of intensity of outgoing migration links with Russian regions (1992-2002) Calculated and compiled by the author based on [State..., 2002a; Federal..., 2001; Federal ..., 2002b; Federal ..., 2003)



**Figure 8.** The Kaliningrad region's coefficient of intensity of outgoing migration links with Russian regions (2003-2013) Calculated and compiled by the author based on (Federal..., 2014b; Federal..., 2004b; Federal..., 2005; Federal..., 2006; Federal..., 2007; Federal..., 2008b; Federal..., 2009; Federal..., 2010; Federal..., 2011; Federal..., 2012b; Federal..., 2013; Federal..., 2014c).

In the 1990s, the Kaliningrad region developed two isolated areas of principal outgoing migration in Belarus and Lithuania (fig. 9). Both areas were localised as early as 1969. However, they followed different development patterns. The intensity of migration links with Lithuania – as well as Latvia and Estonia – decreased dramatically after the collapse of the Soviet Union, whereas the intensity of outgoing migration links with the Republic of Belarus increased by almost 40% (see Rybakovsky, 1973a; Karachurina, 1999).

In the 2000s, the principal area of outgoing migration localised in post-Soviet states and the intensity of migration links between them increased. The isolated area of Lithuania and Latvia comprised the Baltic compact area with a CMLI of 2.33. Kyrgyzstan and Kazakhstan formed the Central Asian compact area with an average CMLI value of 3.09. A new isolated area emerged in Armenia – a country characterised by the increasing intensity of migration links (fig. 10). On the contrary, the isolated area of Belarus demonstrated a decreasing intensity.



**Figure 9.** The Kaliningrad region's coefficient of intensity of outgoing migration links with post-Soviet states (1992-2002) Calculated and compiled by the author based on (State..., Federal..., 2001; Federal ..., 2002b; Federal ..., 2003; The United..., 1994; The United..., 2003).



**Figure 10.** The Kaliningrad region's coefficient of intensity of outgoing migration links with post-Soviet states (2003-2013) Calculated and compiled by the author based on (Federal..., 2004b; Federal..., 2005; Federal..., 2006; Federal..., 2007; Federal..., 2008b; Federal..., 2009; Federal..., 2010; Federal..., 2011; Federal..., 2012b; Federal..., 2013; Federal..., 2014c; The United..., 2012; The United..., 2013).

## 5. Conclusion

A geographical analysis of changes in the intensity of the Kaliningrad region's migration links in 1992-2013 shows significant changes in the spatial localisation of migrant 'donors' and 'recipients' against the background of a dramatic decrease in migration in the first decade of the 21<sup>st</sup> century.

The post-Soviet space accounting for a major part of the region's positive net migration rate went through the stages of disintegration of the Baltic compact area, which emerged in 1969, and the rapid development of two new areas – the Central Asian compact area consisting of Kazakhstan and Kyrgyzstan and the isolated area of Armenia. In the 2000s, a new compact area emerged in Russia in West Siberia as a result of the general increase in the intensity of the region's migration links with the other Russian regions. However, this process also led to a more even distribution of 'donor' regions across the country. However, the most substantial contribution to the region's increasing population is made by the Eastern and Northern compact areas.

The localisation of territories receiving migrants from the Kaliningrad region in the 1990s and 2000s also changed. Although the principal migration areas remained the same – traditionally, these are the capital Russian regions, – some principal areas of outgoing migration underwent transformations. In particular, the Central compact area divided into two isolated areas of the Belgorod and Moscow regions and two isolated areas emerged in the Krasnodar territory and the Yamalo-Nenetsky autonomous region. The previous migration areas (Eastern, Northern, and Western) show a trend towards a decreasing intensity of migration links. On the contrary, the post-Soviet space is characterised by the intensification of outgoing migration links manifested in the re-emergence of the Baltic compact area in Lithuania and Latvia and the rapid development of the new Central Asian compact area and an isolated area in Armenia.

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