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Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

Neverov, A. N., Markelov, A. Y., & Airapetian, A. S. (2021). Evaluating the impact of integration processes on the ethnopolitical competition of languages in the Baltic Region. *Baltic Region*, 13(3), 58-77. <https://doi.org/10.5922/2079-8555-2021-3-4>

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EVALUATING THE IMPACT OF INTEGRATION PROCESSES ON THE ETHNOPOLITICAL COMPETITION OF LANGUAGES IN THE BALTIC REGION

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Received 20 November 2020
doi: 10.5922/2079-8555-2021-3-4
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In the literature, the impact of integration processes on language learning and usage is traditionally evaluated either through the prism of sociolinguistics or soft power. This article proposes a new conceptual approach based on measuring various aspects of competition between languages by the language integration and monopolization indices, on the one hand, and the polylingualism coefficient, on the other. The approach is applied to the situation in the Baltic Sea region of the EU. The article uses data from Eurostat, Eurobarometer, and the Baltic statistical offices to analyze the performance of Baltic language markets by assessing the impact of the EU integration on the use of languages in the region. The findings show a growing tendency towards polylingualism in countries participating in integration associations. Integration bodies, however, do not give one language precedence over others but encourage convergence of the languages of their leading economies. The main factor behind a language's popularity is the strength of commodity and labor markets in the country where it is spoken.

The authors conclude that close economic and political integration stimulates heterochronous processes in supranational associations. The first is increasing monopolization in the language market of the association and the language markets of its sub-regions. The second is the decrease in monopolization in national language markets.

Keywords:

Baltic region, language market, language integration, language monopolization, polylingualism, competition between languages

Introduction

Competition and convergence of languages are areas that have been extensively studied in the fields of international relations and anthropology. Researchers are traditionally interested in exploring specific topics, like the distribution areas of various linguistic cultures, their scope of application and dynamics. Specialists in international relations, geo-economics, and geopolitics evaluate these issues using such terms as *soft power*, *smart power*, *assimilation*, *linguistic sovereignty*, etc.

To cite this article: Neverov, A. N., Markelov, A. Yu., Airapetian, A. S. 2021, Evaluating the impact of integration processes on the ethnopolitical competition of languages in the Baltic Region, *Balt. Reg.*, Vol. 13, no 3, p. 58–77. doi: 10.5922/2079-8555-2021-3-4.

[1–3]. Russian and Soviet philologists and psychologists emphasize the special role of language skills and polylingualism in the formation and development of human thinking and mental state [4–7].

The implementation of language policy by states, integration groupings (such as the European Union), and partly by transnational corporations is one of the key issues in linguistics and sociolinguistics. “Linguistic situation”, which refers to the combination of linguistic features (number of languages, dialects, argot etc.) in a given area (state, state region, city, settlement etc.) for a given period of time [8–10], is one of the most significant theoretical topics to date. Polylingualism, in its turn, can be an element of a particular linguistic situation and simultaneously a criterion of personal development.

In this regard, the Baltic region is especially fit for analysis of the influence of political and economic integration or disintegration on language development, language competition, and interaction [11].

Between the 1980s and 2020, socio-economic and geo-economic development parameters of Germany, Poland, Estonia, Latvia, Lithuania, and Russia experienced several dramatic turns. There were also significant cultural and historical changes. Other countries of the region (Sweden, Denmark, and Finland) largely preserved the main parameters of their own socio-economic development over the same period. Now, all countries of the region share the area of geo-economic activity, and transformations in some countries significantly impact the development of the others. The countries’ environmental, logistical, cultural, historical and economic features also intersect quite significantly.

This article is devoted to the analysis of the dynamics of the Baltic region’s language markets. For the purposes of this study, Germany, Poland, Estonia, Latvia, Lithuania, Russia, Sweden, Denmark, and Finland are considered part of the region thanks to their access to the Baltic Sea. The states listed above, except Russia, are current members of the European Union. However, their integration processes were different in terms of timeframe and the countries’ background (table 1).

Table 1

**The dynamics of integration and disintegration of the countries
of the Baltic region (excluding Russia)**

State	Date of accession to the EEC/EU	Notes
Germany	March 25, 1957	Part of the country accessed to the European Community after October 3, 1990, in the process of completing the unification of East and West Germany
Denmark	January 1, 1973	In 1985 Greenland, as part of Denmark, left the EEC
Finland	January 1, 1995	
Sweden		
Latvia	May 1, 2004	Was a part of the USSR until 1991
Lithuania		Was a part of the USSR until 1991
Poland		Was a member of the CMEA until 1991
Estonia		Was a part of the USSR until 1991

As table 1 shows, the Baltic Region has a rather heterogeneous history of integration within the EEC/EU. Therefore, we used its example to analyse how economic and political interaction of the states affect the level and quality of their language use.

Based on the above, we chose the period of analysis from 2000 to 2016, i.e., the period in which 50% of the countries of the Baltic Region joined the EU. The Russian Federation was excluded from the analysis, as it is not a member of the European Union.

Materials and Methods

Estimation and forecasting of the impact of globalization and integration on the functioning of languages is in the spotlight of contemporary sociolinguistic studies and international relations research. A variety of articles and reviews [12], as well as monographs [13] has been published on the topic. Several Russian and international authors believe globalization processes to be characterized by the interaction of various languages; through its widespread use English, in particular, has had a strong impact on other languages. For example, N. Troshina defines this impact of English on the German language as a change in the language environment of the latter [14, p. 104]. This author also shares the wide-spread belief in the inevitability of transformation of Americanized English into the *lingua franca* in Europe due to its popularity among the youth [15, p. 10]. A. Kirilina speaks of another trend of globalization processes: such communicatively powerful European languages as German, Russian, French, and Italian are subject to a major pressure of globalization exerted by English [16, p. 128]. According to U. Ammon, the situation is also facilitated by the position of the native speakers of minority languages since they have little desire or need to learn any other languages in addition to their mother tongue and English [17; 18]. A number of recent studies have revealed that the use of national languages in everyday interaction may be connected with migration and the level of assimilation of migrants [19].

Despite the fact that most linguists agree that the dominance of English in the global society is inevitable, those within the field of sociolinguistics have pointed out the need to master multiple languages as an important prerequisite for professional success in the future, since the global communication community will not be able to do with only one language, even if it is an English-based argot [20, p. 252].

Moreover, the German expert Steincke states that polylingualism is the most preferable option for the development of further globalization processes not only for large linguistic communities, but even for national minorities [20, p. 256]. According to E. Solntsev, global monolingualism based on the English argot will decrease the cultural level of international communication, impede mutual understanding, lead to additional costs, and contribute to the standardization of thinking, which is unacceptable in the rapidly changing conditions of modern international realities that require a comprehensive approach to solving both existing and emerging problems [21, p. 141].

Therefore, current research on polylingualism carried out within the humanities captures its impact on globalization integration processes [22]. Meanwhile, the vast majority of theoretical and applied studies are characterized by an emphasis on researching the dissemination of language as the agent of influence of a culture or civilization [23—30]. In practice, this frequently leads to a conflicting narrative in the analysis of the interaction and use of languages [31; 32]. One of the most popular approaches to language analysis considers the relationship between one's mother-tongues and learnt languages through the prism of assimilation and/or cultural preservation.

A similar conceptual framework, for instance, was implemented in the studies of a Sovietologist and American demographer Brian Silver [33; 34] and involved calculating the bilingualism rate (BR) and language assimilation index (LAI). Silver suggested picking a random ethnic group (people or nation), for which BR and LAI estimates were calculated according to a formula. It is noteworthy that these indices were originally developed specifically to evaluate inter-ethnic politics and to measure bilingualism levels in the USSR, and they implicitly regard language correlation as processes of displacement or absorption of native (indigenous) languages by a national language.

Globalization and anti-globalization, the opposing trends that have been the global community for the past few decades, require the development of alternative methodological and conceptual approaches that would not rely, in their basic assumptions, on extreme forms of cultural confrontation [35—36]. We believe that one such approach is analysis of the interaction of languages from the perspective of their rivalry and/or convergence.

To implement this approach, we propose three interrelated indicators [37; 38]. The first is aimed at assessing the extent of language convergence, or simultaneous use; in other words, language integration. The second, polylingualism coefficient, helps assess the level of polylingualism. The third indicator, language monopolization level, is aimed at analysing and estimating the freedom of language competition.

We proceed from the assumption that in the situation of total freedom of language rivalry people have the right to choose and learn the language that ensures the best conditions for personal and professional development. At the same time, it is important to have an indicator that can objectively show an upward or downward trend in the number of languages people tend to have a good command of in a given region. This indicator will help evaluate the impact of globalization or deglobalization on the level of people's personal and intellectual development through the prism of polylingualism.

It is a well-known fact that in the late 19th — early 20th century, educated people were proficient in more than two languages, and all Western universities taught several languages: the national language, languages of international communication and Latin as the language of science. However, it would be an exaggeration to call that period 'globalization'. On the other hand, the second half of the 20th century, and especially the beginning of the 21st century, have been almost universally described as the formative period of global human civilization and a period of globalization of socio-economic relations [41—43].

In this regard, it would be interesting to see how language proficiency and competition of languages in certain regions of the world has changed over time. The analysis of these processes in the Baltic Region is especially important, since there one finds all the global trends of migration and globalization, on the one hand, and traditionally high standards of life coupled with a variety of approaches to multiculturalism, on the other.

Research tools

To measure the language integration level, we developed a modification of the factor proposed by Silver. In this modification, at the conceptual level, we abandoned the use of the assimilation level factor as aimed at assessing the level of assimilation of one cultural environment by another culture in favor of measuring proportions of the population speaking different combinations of languages. This will allow us to assess the spread of polylingualism in a particular society or, as in this article, in a region of the world. Following previous studies on the subject, we identified four main population groups based on the type of their linguistic proficiency: monolinguals (ML) — people who speak only one language; bilinguals (BL) — people who speak two languages; trilinguals (TL) — people who speak three languages; polylinguals (PL) — people who speak four or more languages.

Linguistic and psychological research has demonstrated that, starting from four mastered languages, a person forms a special competence, due to which the time to learn a new language sufficiently decreases, and thinking becomes multicultural. This conceptual change allows us to construct the following language integration index:

$$LII = -1/3 + \{(PL \times 4) + (TL \times 3) + (BL \times 2) + (ML \times 1)\} : 300.$$

The ML, BL, TL, and PL factors are calculated as percentages of the studied population. Each of the groups is assigned a coefficient: monolinguals — 1, bilinguals — 2, trilinguals — 3, and polylinguals — 4. The more languages a region's population has command of, the higher the coefficient. Through the calculations carried out using the given formula, we obtain a value between 1 and 0. The value closer to 1 means that the language integration index of the studied population is higher, so the linguistic variability of the studied population is also higher, and this population has more language opportunities for communication.

Apart from the language integration index, the polylingualism index, defined as the polylingualism coefficient, will be used in this study. This indicator is calculated as the total of the of BL, TL, and PL, expressed as percentage points:

$$PC = BL + TL + PL$$

To estimate the freedom of language rivalry, the Centre for Psychological and Economic Research has developed an indicator measuring the use of languages

by the population and its separate groups in various spheres of communication, based on the Herfindahl-Hirschman Market Monopoly Index formula [44]. Developed by American researchers, the index is traditionally used in economics to estimate the competition and degree of monopolization in different sectors of economy. The specific feature of our modification lies in transporting the HHI to the language use sphere. Spheres of communication and spheres of language use are here defined as 'language markets.' This way, it is not the share of goods sold that should be considered, but the share of languages used. In this regard, we suggest the term 'Index of Language Monopolization (ILM)', to define the new coefficient calculated from sum of the squares of the shares of languages used in the studied group (language market) during a certain period of time (time budget):

$$ILM = L_1^2 + L_2^2 + \dots + L_n^2,$$

where L is the share of languages used and n is the total number of languages. The total value varies from 0 to 1 or 1,000 to 10,000 (where the shares are given as a %).

The closer the value to 1 (10,000), the weaker the competition between the languages, and therefore the more monopoly is given to one of the languages. The closer the value to 0, the stronger the rivalry between them, i.e., the bigger the number of languages used in a language market (in a population studied, a communication sphere, etc.). The following threshold values of these indices are defined for the analysis of commodity markets in economic research:

- 1) Highly-concentrated markets: $1801 < ILM < 10000$;
- 2) Moderately concentrated markets: $1001 < ILM < 1800$;
- 3) Low-concentrated markets (highly competitive) markets: $ILM < 1000$;

We used the data from Eurostat,¹ Eurobarometer² and official statistical bodies

¹ Number of foreign languages known (self-reported) by sex (Last update: 07.03.2019) // Eurostat, available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat_aes_121 (accessed 21.09.2019).

² Report "Europeans and their languages". Eurobarometer 54 special produced by INRA (EUROPE) European Coordination Office S.A. for The Education and Culture Directorate-General managed and organised by The Education And Culture Directorate-General Unit "Centre for the citizen — Analysis of public opinion", 2001; Europeans and their Languages. Special Eurobarometer 243 / Wave 64.3 — TNS Opinion & Social. European Commission, 2006; Special note on Europeans and Languages. Special Eurobarometer 237 — Wave 63.4 — TNS Opinion & Social. European Commission, 2006; Report "Europeans and their Languages". Special Eurobarometer 386 / Wave EB77.1. Conducted by TNS Opinion & Social at the request of Directorate-General Education and Culture, Directorate-General for Translation and Directorate-General for Interpretation. Survey coordinated by the European Commission, Directorate-General for Communication (DG COMM "Research and Speechwriting" Unit), 2012; Annexes to the Report "Europeans and their Languages". Technical specifications. Special Eurobarometer 386 / Wave EB77.1. Conducted by TNS Opinion & Social at the request of Directorate-General Education and Culture, Directorate-General for Translation and Directorate-General for Interpretation. Survey coordinated by the European Commission, Directorate-General for Communication (DG COMM "Research and Speechwriting" Unit), 2012.

of the Baltic Region⁵ to calculate the indices. The data of the Russian Federation was not analyzed for the reasons mentioned above.

The index calculation method was fully consistent with the methodology published in our previous works [47; 48].

Results

The index of language integration shows the ratio of those inhabitants of the region who use in their daily communication — and have a good command of — one (monolinguals) or several languages (bilinguals, trilinguals, and polylinguals). Here, reference values under 0.330 indicate the dominance of monolinguals, and values above 0.5 indicate the prevalence of people speaking more than two languages in a country or a region.

The data presented in table 2 show that, generally, in 2000–2016, the EU was teetering on the brink of monolingual dominance in the general structure of its population (peak values exceeded 0.332 only in 2011 and 2016), indicating a bilingual space of communication in which a national (official) language coexists with the language of international communication, with the explicit dominance of the former in each of the countries from the group studied.

At the same time, unlike the EU as a whole, the Baltic states were firmly placed in the range of 0.39–0.54 by their level of language integration, i.e., in the area where polylingualism is a norm for their population.

Table 2

The dynamics of the language integration index from 2000 to 2016

State	2000	2005	2007	2011	2012	2016
The EU	0.246	0.317	0.317	0.352	0.297	0.342
The Baltic Region (excluding the Russian Federation)	0.394	0.485	0.508	0.546	0.477	0.541
Including:						
Sweden	—	0.517	0.550	0.609	0.500	0.555
Finland	—	0.463	0.633	0.733	0.497	0.712
Denmark	—	0.613	0.512	0.622	0.567	0.620
Latvia	0.380	0.533	0.540	0.558	0.573	0.568
Lithuania	0.346*	0.530	0.614	0.553	0.540	0.541
Estonia	0.457	0.570	0.543	0.578	0.537	0.606
Germany	—	0.340	0.369	0.418	0.340	0.421
Poland	—	0.310	0.302	0.297	0.263	0.306

Note: * for Lithuania, the data are for 2001.

⁵ Results of the 2000 Population and Housing census in Latvia. Collection of statistical data. — Riga: Central Statistical Bureau of Latvia, 2002.— 293 p. ISBN 9984-06-143-4; The Report of 2001 Total Population and Housing Census in Lithuania. — Vilnius: Department of Statistics to the Government of the Republic of Lithuania, 2004.— 62 p. ISBN 9955-588-20-9; 2000 Population and Housing Census. II. Citizenship, Nationality, Mother Tongue and Command of Foreign Languages. — Tallinn: Statistical Office of Estonia, 2001.— 350 p. ISBN 9985-74-167-6; ISBN 9985-74-202-8.

The LII values presented in table 2 make it clear that, of all the Baltic states, Poland and Germany show the least degree of language integration; these countries have the largest populations and are situated on the southern shore of the Baltic Sea. By contrast, countries along the western and northern shores of the Baltic Sea are characterized by at least a bilingual structure with a trend towards trilingualism. A change in trends is notable for Estonia, Latvia and Lithuania (provisionally — the eastern shore of the Baltic Sea). Closer to ascending to the EU, these states made a leap from a bilingual (national language and Russian, or national language and English) to trilingual structure (national language, Russian, English). This obviously happened due to the increased use of the national language and English, accordingly.

We can see that the Baltic Region is not only ahead of the overall EU level in the number of languages used and users' proficiency, but also demonstrates a trend towards a more rapid growth of polylingualism (fig. 1).

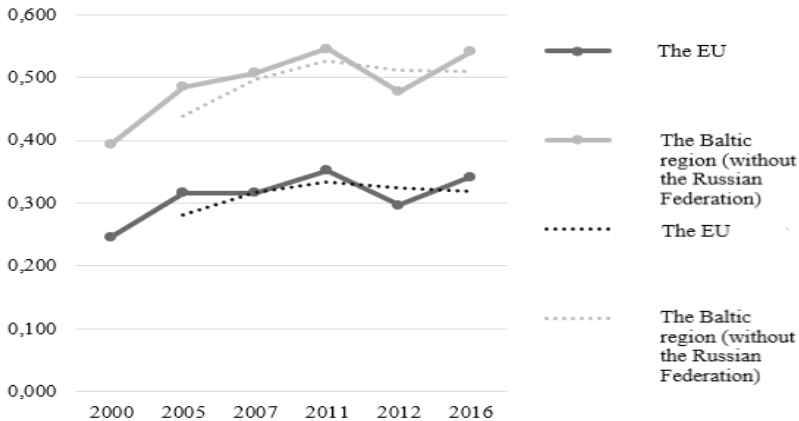


Fig. 1. The dynamics of language integration in the Baltic Region and the EU during the period from 2000 to 2016 (by LII)

By this, it can be argued that the dynamics of language integration shown in figure 1 demonstrates the fact that, in the EU, the Baltic Region serves as a driver of polylingualism. We can assume that there are other drivers of polylingualism in Europe, for instance, the Balkan Region; however, this assumption needs to be confirmed by a separate research project.

Within the Baltic Region itself, there are also differences in the structure of the index of language integration values (fig. 2).

Whereas the Baltic countries (Latvia, Lithuania, Estonia), having made a great leap in language integration during the period of preparation to ascend the EU (2000—2005), stabilized their index values at the 0.55—0.57 level, Scandinavia demonstrated cyclical fluctuations in the 0.53—0.65 range over the period studied.

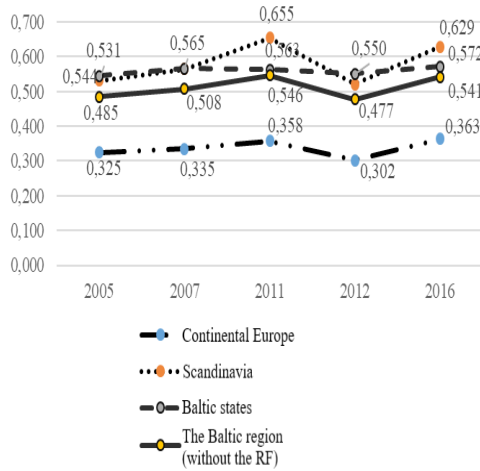


Fig. 2. The dynamics of language integration in the Baltic Region by groups of countries from 2005 to 2016 (by LII)

The cyclical fluctuations in Sweden, Finland, and Denmark can be explained by migration. Intensification of migration flows decreased the overall level of polylingualism, while their stabilization reversed the trend and even increased the index values. Poland and Germany, conversely, held a stable bilingual position, reflecting rather serious views of the majority of citizens on the issue of linguistic assimilation of migrants.

To verify the assumptions made above, we analyzed polylingualism coefficient dynamics from 2000 to 2016 (fig. 2). As we have already mentioned before, this factor reflects the share of the population of a country or a region that speaks more than one language.

As with the data for LII, the values of PC for the Baltic Region are higher than for the EU in general (table 3). Thus, for instance, in 2000, the coefficient for the Baltic Region read 0.793, which was more than 1.6 times higher than the corresponding coefficient for the EU (0.486). By the end of the studied period, the difference in PC had decreased to a factor of 1.4. It is interesting that the decrease in the gap between the PC values occurred against its growth of the indicator values for both the EU and the Baltic Region. Consequently, despite the fact that the share of those in the Baltic Region who were proficient in more than one language was still higher than that in the EU, it should be pointed out that the level of polylingualism in the EU as a whole in the period of 2000—2016 grew faster than in the Baltic Region.

Sweden demonstrated the highest PC value, and Poland the lowest (0.966 and 0.670, respectively) among the countries of the region in 2016. Thus, the following argument can be made about the presence of two stable trends during the period under study: the Baltic states and Scandinavian countries displayed cyclical fluctuations of initially high levels of PC, while Poland and Germany had smaller

percentage of people speaking more than one language among their populations, so the latter would typically display a smaller amplitude of fluctuations in the coefficient values.

Table 3

The dynamics of the coefficient of polylingualism from 2000 to 2016

State	2000	2005	2007	2011	2012	2016
The EU	0.486	0.560	0.631	0.658	0.540	0.646
The Baltic Region (excluding the Russian Federation)	0.793	0.809	0.850	0.870	0.806	0.891
Including:						
Sweden	—	0.900	0.950	0.918	0.910	0.966
Finland	—	0.690	0.839	0.918	0.750	0.921
Denmark	—	0.880	0.879	0.941	0.890	0.957
Latvia	0.908	0.950	0.949	0.949	0.950	0.957
Lithuania	0.706	0.920	0.976	0.973	0.920	0.956
Estonia	0.764	0.890	0.863	0.855	0.870	0.912
Germany	—	0.670	0.715	0.785	0.660	0.787
Poland	—	0.570	0.627	0.619	0.500	0.670

Figure 3 shows interdependence between the values of LII and PC indices within the European Union as a whole and for the Baltic Region. We propose that there is a direct correlation between the total share of individuals speaking more than one language and the general values of language integration. Given this, Fig. 3 clearly shows the following dependence: the higher the PC, the higher the final LII factor, and vice versa.

This dependence is generally obvious even on instrumental level. However, as figure 3 demonstrates, despite the similarity of the calculation method for the two factors, their dynamics, while generally similar, are not identical.

Thus, the PC value curve for the Baltic Region is flatter than the LII value curve. The situation is reversed for the EU. These opposing trends point to the fact that while the share of individuals speaking and generally using more than one language in the Baltic Region remained generally high, in the EU, the transition from monolinguals to bilinguals and vice versa was the main factor of changes in the language market. This means that fluctuations of language integration in the Baltic Region were brought about, firstly, by changes in the percentage of the population proficient in three or four languages, and, secondly, by migration. Furthermore, the latter obviously took place through the addition of a national language of a destination country to the linguistic ‘baggage’ of a migrant to his or her previously formed bilingualism (native language and English, or native language and German).

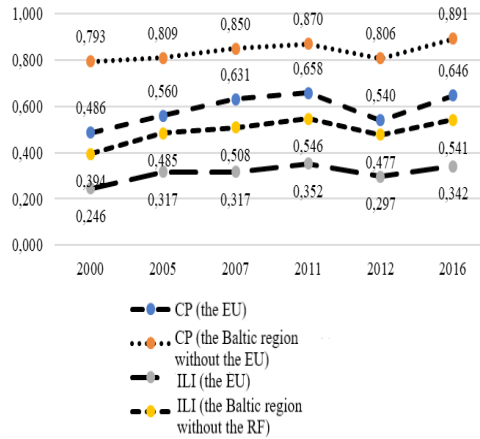


Fig. 3. The dynamics of the polylingualism coefficient and the language integration index in the EU and the Baltic Region from 2000 to 2016

Unlike in the Baltic Region, in the EU as a whole the main changes were related to the fluctuations in polylingualism rather than language integration values. This reaffirms the proposition, according to which intercultural communication was growing more rapidly in the southern part of the European Union, starting from a lower base point than in the Baltic Sea region.

The data on the dynamics of the LII index in various subgroups of the Baltic states presented in Fig. 4 show that it was fair to assume the trilingualism of the Estonian, Latvian, and Lithuanian populations.

In the studied period, the Baltic states demonstrated near maximum values of polylingualism, while practically 50% of the population of the countries of the southern shore of the Baltic Sea, Germany and Poland, were monolingual and bilingual.

Interestingly, former Soviet Baltic republics were relatively unaffected by the sharp decrease in the polylingualism coefficient that occurred in 2012, while Germany and Poland reached their lowest polylingualism coefficient that year, even lower than in 2005.

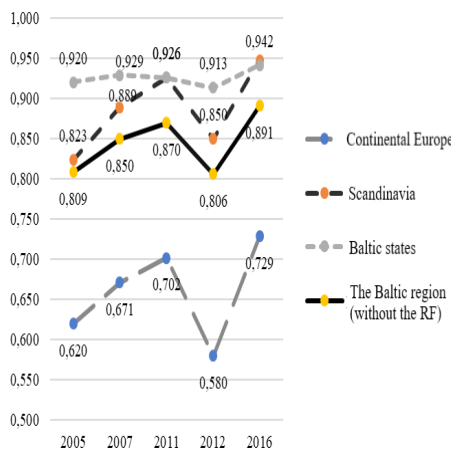


Fig. 4. The dynamics of the polylingualism coefficient in different groups of countries in the Baltic Region from 2005 to 2016

The general trend of language markets in the Baltic Region is that of consistent growth for both polylingualism and language integration. The question arises whether this growth is stimulated by an increase in the use of one language (e.g., English), or due to the increased contact between the residents of different countries using each other's languages. In other words, does economic and political integration lead to an increase in the monopoly of one particular language, or, on the contrary, to the development of a highly competitive linguistic environment?

Due to the lack of raw data for other periods, it was only possible to calculate the monopolization factor for 2005 and 2012 only.

Figure 5 shows the level of language monopolization in the EU as a whole and in the Baltic Region. It is easy to notice that in both cases we can speak of a highly concentrated language market, as well as of a trend towards further concentration.

While language monopolization grew more rapidly in the Baltic Region (by 8.5% in seven years), in the EU it did not change very much in the same period of time (2.7% growth). At the same time, the general level of concentration was higher for the EU rather than for the Baltic Region.

When comparing all three factors examined in the article, an interesting picture emerges. On the one hand, the Baltic Region acted as a driver of language integration and a sector of highly developed polylingualism, and, on the other hand, the growing value of the indices used in the study were stipulated by language concentration rather than diversification.

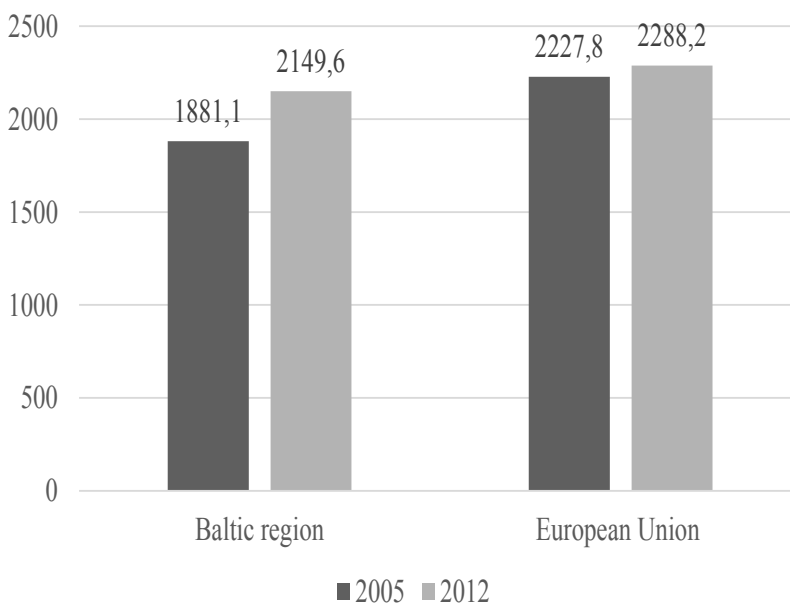


Fig. 5. Correlation of language monopolization levels of the Baltic Region and the European Union in 2005 and 2012

The European Union as a whole showed a relatively low level of language integration and polylingualism. At the same time, the upward trend demonstrated by both factors studied means that there was an increase in the concentration of languages. For the individual countries of the Baltic Region the picture was even more interesting (figure 6).

Whereas the level of monopolization within the region as a whole had only increased to 2150, which definitely attested to highly concentrated language markets (the threshold of the highly concentrated market being 1801 points), or 350 points up from medium-concentrated state; taken separately, all the countries of the region, showed monopolization factors in the range of 2800 to 4060, or more than 1000 points higher than a medium-concentrated state of language market.

Thus, we can conclude that, in general, the region is considerably less monopolized in the field of language than each individual country. This result did not come as a surprise. After all, we are talking about economic and political integration, which implies a decrease in the dominance of national languages in favor of strengthening those acting as a means of cross-cultural communication.

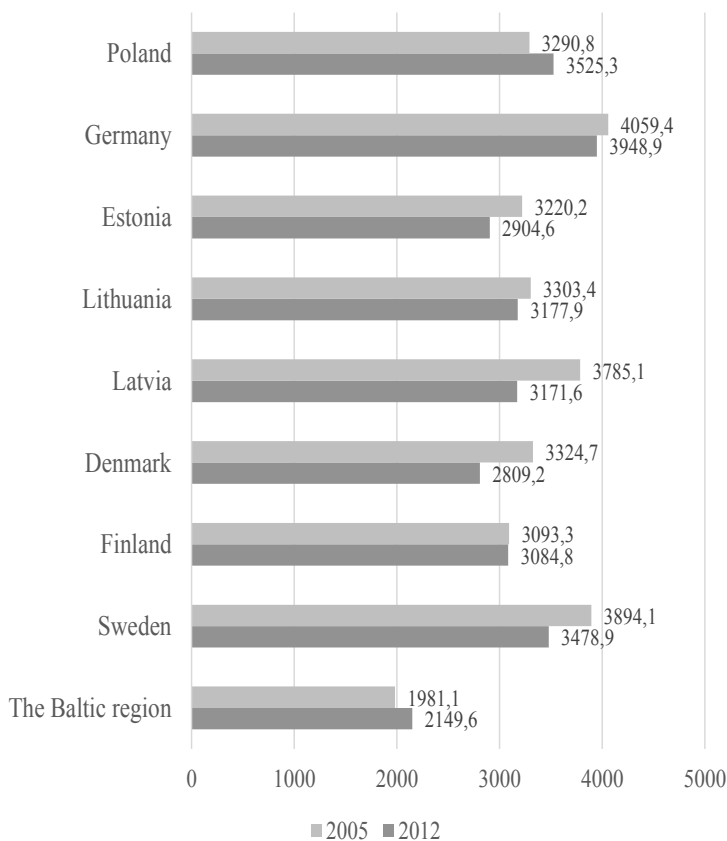


Fig. 6. Correlation of language monopolization in the countries of the Baltic Region in 2005 and 2012

Thus, the pattern observed in figure 6 reveals that, generally, integration processes lead to a consistent alignment of language monopolization level within individual countries with that of the region of integration. On the level of individual countries, however, we see that things differ. For instance, in Poland, just like in the region as a whole, monopolization was growing, while other countries of the region were experiencing a decrease in this factor.

The situation in Poland, atypical for the region, was apparently determined — to a large extent — by the actual language policy aimed at reducing the use of all languages other than Polish, German, and English, whereas other countries in the region were gravitating towards polylingualism. Despite this, the general trend is obvious. The upward trend of language monopolization in the region is accompanied by a decrease in concentration in domestic language markets.

For a more detailed analysis of the processes occurring therein, we created two analytical tables (tables 4, 5). There, we only included languages with the usage level of 10% or higher.

Table 4

Leaders of the language market in the countries of the Baltic Region in 2005, %

State	L1	L2	L3	L4	Total
The Baltic Region	German (31.36)	English (23.48)	Polish (14.08)	—	68.92
Sweden	Swedish (47.31)	English (39.70)	—	—	87.01
Finland	Finnish (44.79)	English (24.41)	Swedish (21.02)	—	90.22
Denmark	Danish (44.61)	English (34.25)	—	—	78.86
Latvia	Russian (43.03)	Latvian (42.79)	—	—	85.82
Lithuania	Lithuanian (41.11)	Russian (36.46)	—	—	77.57
Estonia	Estonian (41.11)	Russian (36.46)	English (12.15)	—	89.72
Germany	German (55.35)	English (27.68)	—	—	83.03
Poland	Polish (51.66)	Russian (13.86)	English (12.46)	—	77.98

The data presented in table 4 demonstrates a high concentration of ‘market power’ in the language market of the Baltic states. Similar to economic analysis of commodity markets among all countries of the region, one can speak about

language duopoly or monopoly. Duopoly is observed in Estonia, Latvia, Sweden, Denmark, and Lithuania. While in the former Baltic republics of the USSR it is explained by the role of Russian as the national language in the recent past, in Sweden and Denmark, the explanation is apparently the high integration of the Swedish and Danish economies with the economies of Great Britain, Canada, and the USA. The monopoly of official national language was observed in the rest of the countries of the Baltic Region in 2005.

By 2012, the situation had generally changed (table 5). All the region's countries had shifted to the model of a language market with three dominant languages (in 2005, only 40% of the countries had such a model). Even Poland, which, as we discussed earlier, demonstrated a counter-trend in terms of monopolization level in relation to the other Baltic states, had shifted completely to the model with four dominant languages.

Table 5

Leaders of the language market in the countries of the Baltic Region in 2012, %

State	L1	L2	L3	L4	Total
The Baltic Region	German (32.84)	English (27.84)	Polish (13.67)	—	74.35
Sweden	Swedish (42.27)	English (39.09)	German (11.82)	—	93.18
Finland	Finnish (40.69)	English (30.30)	Swedish (21.21)	—	92.20
Denmark	Danish (36.50)	English (32.70)	German (17.87)	—	87.07
Latvia	Latvian (37.55)	Russian (37.15)	English (18.18)	—	92.88
Lithuania	Lithuanian (40.35)	Russian (35.09)	English (16.67)	—	92.11
Estonia	Estonian (35.24)	Russian (33.04)	English (22.03)	—	90.31
Germany	German (53.59)	English (30.94)	—	—	84.53
Poland	Polish (53.98)	English (18.75)	German (10.80)	Russian (10.22)	93.75

Just like in 2005, duopoly was observed in Sweden, Denmark, and Lithuania, and language monopoly remained unchallenged in Germany and Poland. Estonia and Latvia switched from duopoly to a model with three dominant languages, the transition occurring due to the decrease in the share of the Russian language and an increase in the share of English. In Poland, despite the lingering monopoly, English and German had sufficiently enhanced their competitive positions.

Thus, we can preliminarily state that the development of economic and political integration processes does not directly lead to the monopoly of the language of cross-cultural communication, although it sufficiently increases the demand for it. Rather, we can conclude that integration processes increase the demand for those languages that are linked to the most developed commodity markets, especially the labor market.

Conclusions

The analysis of the Baltic Region by calculating three interrelated indices of language integration, polylingualism, and language monopolization, allowed us to evaluate the impact of globalization and political and economic integration on the state of the 'market of markets. To this end, we compared the dynamics of the language market measurements of the Baltic Region and the European Union.

During the period studied, the language structure of the European Union was generally characterized by the prevalence of monolinguals and bilinguals, while the Baltic Region had higher polylingualism and the prevalence of bilinguals and trilinguals. The correlation between these social groups changed in cyclic fluctuations, which was apparently determined by migration processes and the quality of the migration policy carried out in the region. Some exceptions were Lithuania, Latvia, and Estonia, where the dynamics of language integration and polylingualism was stable and not characterized by sharp changes. On the whole, it can be preliminarily concluded that state participation in integration processes is a factor contributing to the growth of polylingualism in a society. In the studied period, this held true for the Baltic Region and for each of its member states. As for the Baltic Region, in the studied period linguistic integration processes were characterized by communicative variability and expansion of opportunities to choose a preferred language of communication.

We propose that the development of integration groupings does not lead to the formation of a hegemonic language, but to the strengthening and convergence of languages of the leading economic states within these groupings. Specifically, development of commodity markets of the states and the attractiveness of their labor markets function as the main factors determining the dynamics of language demand.

It can thus be stated that there are two heterochronous processes in the development of highly integrated supranational groupings: a) an upward trend towards monopolization of the language market of an integration grouping and language markets of subregions within this grouping; b) a downward trend towards monopolization in the domestic language markets of the member states within that association. Moreover, it can be assumed that there is a tendency to equalize the level of concentration of domestic language markets and language markets of subregions and of the integration grouping as a whole. At the very least, the development of processes in the Baltic Region from 2000 to 2016 demonstrates this trend. To estimate whether the trend is general or only applicable to the studied region, it is essential to conduct similar studies for other subregions of the European Union, and ideally within the framework of the evaluation of other

integration groupings (first of all, NAFTA). Another important task would be to study the Baltic Regions of the Russian Federation (the Kaliningrad region, the Leningrad region and Saint-Petersburg) using the proposed methodology. Only after such study is completed will it be possible to carry out a comprehensive analysis of development trends in the Baltic macro-region. Unfortunately, due to the lack of raw data a study of this scale with scientifically relevant results is not possible at the moment.

We can conclude that the dynamics of competition in language markets is to a large extent determined by the objective level of socio-economic development of the countries, and, to a lesser degree, by the national language policy. Specifically, the difference in the effectiveness of the first and second factors is evident where the language policy is based on counteraction, assimilation, or 'soft power', rather than on the real demand for particular languages.

The article is prepared within the framework of the project №19-011-00328 A "Delimitation of competences and authorities in the Russian Federation as a constitutional form of the federal center's choice of economic behavior: problems of reforming" and was executed on the basis of the International laboratory established with the support of the Megagrant of the Government of Russian Federation №14.W03.31.0027

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