

ALEXANDER BURNASOV

Ural Federal University, Ekaterinburg, Russia

MARIA ILYUSHKINA

Ural Federal University, Ekaterinburg, Russia

YURY KOVALEV

Ural Federal University, Ekaterinburg, Russia

ANATOLY STEPANOV

Ural Federal University, Ekaterinburg, Russia

GULNARA NYUSSUPOVA

Kazakh National University, Almaty, Kazakhstan

## The Transformation of Economic Development in the Border Regions of Russia and Kazakhstan in the Post-Soviet Period

**Abstract:** The prospects and trends for the development of border regions of the former Soviet Union have become one of the profound research areas in the field of economic geography recently. In the conditions of planned economy in the Republics of the USSR, a vertical system of industrial complexes was formed, with the focus on performing national economic tasks. There have been some significant changes in the border regions of independent post-Soviet States in the process of transition to the market economy model. The analysis of the industrial and territorial structure is done on the example of Russia and Kazakhstan. The formation of a common market on the basis of the Eurasian Economic Union allowed the border regions to make the most of their competitive advantage in attracting investments. The unique geographical particularity of the research object is manifested in the fact that there are no analogues of the longest land border in the world as between Russia and Kazakhstan. The new forms of production organisation are implemented in the border regions of the studied countries over more than 7,000 km. More than a quarter of a century later, transformation processes are clearly observed in the mining and manufacturing industries, agriculture, transport and services. As a result, the “regional asymmetry” of industrial development can be observed when manufacturing regions with high added value become the “cores” of economic development of cross-border relations between Russia and Kazakhstan.

**Keywords:** border regions; Eurasian Economic Union; integration; Kazakhstan; Russia

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## INTRODUCTION

Relevance of cross-border cooperation between the countries of the Eurasian Economic Union is obvious. For centuries, there has been an intensive economic, social and

cultural exchange between the territories of these countries. In the recent years Russia and Kazakhstan have formed a unique economic space. Many economic projects were implemented within the administrative structure of the republics of the former USSR. Due to the regionalisation of the world economy, the formation of economic blocs, the deterioration of relations with the West, the Eurasian project of Russia and Kazakhstan has almost no alternatives.

The aim of the research is to analyse modern trends and perspectives of the development of the border regions of the Russian Federation and Kazakhstan. The focus of the research lies within specific changes in the territorial and industrial structures of the above mentioned areas in terms of the direction from planned and administrative models of economy towards market economy. Moreover, the researchers have made an attempt to point out the most developing regions which successfully follow the market reality and have become attractive for further investment not only for the global actors, but also for some countries of CIS respectively. World experience of regional integration (UN, NAFTA and ASEAN) has played an important role and has become an essential instrument for the development of the Eurasian Economic Union (EAEU), which border territories prosper under various social and economic conditions, but have all the necessary prerequisites for wellbeing

## METHODS

The theoretical basis of this study is based on traditional and modern concepts of interstate cooperation and, above all, the theory of international integration. Integration theories help to determine the factors of the evolution of integration processes, to identify their main actors, and to predict the future development of inter-country cooperation processes (Newrly, 1998). Modern concepts of integration have two main directions of integration science – the theory of functionalism (Mitrany, 1943) and its opposite concept – the theory of intergovernmentalism (Haas, 1961). Despite their differences, all integration theories state that it is possible to preserve peace between States and increase the welfare of cooperating nations on the basis of the principles of self-organisation of societies and the search for optimal ways of their development. The methods of achieving these goals remain different. While in the theory of intergovernmentalism the main actor of integration processes is the state, in the theory of functionalism the interstate activity of social groups plays a decisive role in integration processes. The founder of the theory of functionalism, the American researcher D. Mitrani rejects “state fetishism” in matters of inter-country cooperation. He claims that cross-border integration begins with the activities of residents of border regions. Their economic, social and cultural ties form the basis of inter-state cooperation. These are the theories of functionalism and neofunctionalism that have priority in our study in explaining the phenomenon of cross-border cooperation between Kazakhstan and Russia.

Functional relations at the lowest political level between the states of the world (economic, social, technical) provide the basis for long-term peace and well-being of nations. D. Mitrani in his work “A working Peace System” says that the cross-border exchange of goods, people, ideas form the system of the active world (Mitrany, 1943). Regular common cross-border actions strengthen the integration processes between nations, promote the growth of their mutual understanding, weaken mistrust, destroy stereotypes and national prejudices. On the contrary, the destruction of cross-border

interactions, the establishment of “hard” borders increases the conflict potential on both sides of the border, stimulates the growth of aggressive consciousness towards the border people. Therefore, the goal of functionalism is the elimination of national borders, unhindered cross-border exchange of goods, services, people, and ideas (Kaufmann, 1997). Inter-state conflicts can only be resolved through close cross-border cooperation. The impetus for such cooperation should come not from the central government, but from the domestic national need for inter-country cooperation, which brings peace and prosperity to all nations. This kind of understanding is especially high among the population of border areas. Cross-border interaction of this national communities group shows the diversity and richness of forms, models of inter-country cooperation, their evolutionary dynamics, new levels of development. The main factor for the continuation of cross-border cooperation is the vision of collaborative tasks and goals, the definition of common prospects for the future of cross-border cooperation.

The development of the ideas of functionalism continues in the works of E. Haas, D. Mitrani’s follower, the theorist of “neo-functionalism”. The conceptual development of neo-functionalism was associated with the processes of European integration. However, the theoretical “bias” in the new theory was made in the study of the regional rather than the international integration. According to E. Haas, the goal of regional political integration is the creation of a new autonomous political system with its independent institutional framework (Mattli, 1999). Political elites play the main role in integration processes. They initiate processes of integration and cross-border cooperation for their political reasons (political capital at the expense of cross-country interaction). In this case, the processes of cooperation expand, moving from one sector of interaction to another (the spill-over effect). Lang shows through the example of the EU that the initiated projects in the economic sphere (the European Coal and Steel Association – ECSA) have moved further into the integration projects in the political, social, technological, cultural and other spheres (Lang, 1982). Thus, the effect of the overflow creates the basis for comprehensive and deep integration of the border states.

Along with the processes of mutual exchange between the people of the border countries, there are processes of training of political elites within the countries that adjust their political actions from the successes or failures of inter-country interactions. In the EU, until 2015, the national political elite benefited from an integration policy. However, uncontrolled migration caused an irreparable “blow” to the integration policy of the EU, demonstrated all the shortcomings of the system of open borders and free migration, which led to the strengthening of centrifugal tendencies in the region (Brexit).

Thus, the theories of functionalism and neo-functionalism explain the mechanisms of integration processes between countries, show that cross-border communication at the lowest level, common goals and interests of people are the driving force of integration, guarantee of peace and well-being of the population. It is the border population, personal contacts, tourism, network, postal and transport communications that play the main role in international interactions (Deutsch, 1968).

The object of the study is the cross-border cooperation between Russia and Kazakhstan. Cross-border cooperation processes have both functional and non-functional bases. The experience of positive cross-border integration processes in the countries of the European Union (through the creation of the so-called Euroregions) shows that the dynamics of economic interaction of border regions can be obtained only with the “multiplicative effect” of neighbouring countries, interested in deepening the “competitive

advantages” of neighbouring regions. It is a well-known fact that the European border (cross-border) regions received “accelerated development” only when “transnational capital” could receive “economic preferences” on both sides of the borders. In this context, it is interesting to see how the Russian capital over the past 26 years was able to transform the “economic landscape” of the “post-Soviet” countries bordering the Russian Federation. The border regions of the Republic of Kazakhstan, actively interacting in various directions not only economic, but also political, social, cultural, educational nature should be considered the most interesting vector of geographical research.

### CROSS-BORDER COOPERATION BETWEEN RUSSIA AND KAZAKHSTAN

Russia has the longest border with Kazakhstan – 7,512 km that determines the special significance of cross-border cooperation between these countries. 12 Russian regions (Republic of Altai, Altai Territory, Novosibirsk, Omsk, Tyumen, Kurgan, Chelyabinsk, Orenburg, Samara, Saratov, Volgograd, Astrakhan Regions) and 7 Kazakhstan regions (Akt'yubinsk, Atyrau, West Kazakhstan, Kostanai, Pavlodar, North Kazakhstan, East Kazakhstan oblasts) are involved in the economic cross-border cooperation. These regions of Russia and Kazakhstan are of great importance for national economies and in many respects determine the level of their competitiveness. More than 32 million people live in the boundary regions, and the cumulative gross product of the Russian-Kazakhstan border area exceeds \$ 350 billion. At the same time, the GRP (Gross Regional Product) of the boundary regions of Kazakhstan is 40% of Kazakhstan's GDP (Gross Domestic Product), and the GRP of boundary regions of the Russian Federation is 15% of the country's GDP. As A.M. Nosov has aptly noted: “... The GRP of the border of the Russian Federation is more diversified than the GRP of the border of Kazakhstan. The share of the manufacturing industry and services of the GRP of the border of Kazakhstan is much smaller” (Nosov, 2016).

In the current period of time between the boundary regions of the countries under consideration, special emphasis is placed on: “... strengthening the interrelationship of intergovernmental cooperation and the formation of intergovernmental subregional entities by means of the example of boundary regions. The latter is a manifestation of a cross-border agglomeration effect, which results in higher labour productivity, the production of higher quality goods and services and the accelerating of the commodity-money turnover. The concentration of production-technological interactions and imposition of cooperative chains in such spatial formations (subregional international regions) turns the region into an informal core of integration processes. The more such regions, the deeper and more stable the integration process” (Vardomsky, 2014).

The creation of the Customs Union of Russia, Belarus and Kazakhstan in 2010 became a qualitatively new step in the development of integration cooperation. The implementation of the agreements signed within the framework of the Customs Union allowed for the unifying of export-import tariffs and ensure the transfer of all types of coordinated state control from the internal to the external borders of the Customs Union from July 1, 2011. From January 1, 2012, the Common Economic Space began to operate with the participation of three states, within which includes the provision of not only the free movement of goods, but also of services, capital and labor forces, and the implementation of coordinated monetary and macroeconomic policies in the long term (Chassovsky, 2014).

Cross-border cooperation of the countries of the Eurasian Economic Union should lead to: Manifestation of economic, social and political integration between the states at the subregional level within the competence of local authorities; Compensation through the cooperation of local authorities and communities of the negative barrier effect of borders; The solution of local problems through cross-border interaction (economic and social mobility of the population living in a 100–150 km radius on both sides of the border); The development of the peripheral territories of the countries through the stimulation of the economic activity of priority sectors of regional specialisation; Intensification of information exchange and the best examples expansion of cross-border cooperation.

However, cross-border economic processes between the Russian Federation and Kazakhstan cannot be viewed as identical due to the “asymmetry of economic vectors” between the above-mentioned countries. An analysis of the economic situation shows that Russian-Kazakh border economic relations are built primarily on the basis of industrial enterprises created in the era of planned administrative economy of the former USSR. This position is determined by a combination of a number of objective factors: geopolitical location of two countries, cultural and civilisational specificities, complementarities of their economic interests, the presence of a sufficiently high level of scientific, educational and technological ties, relatively extensive infrastructure formed in Soviet times, which unite Kazakhstan and Russia.

V. Dodonova claims, “...the industrial structure of investments in Kazakhstan from the EEU countries, primarily from Russia, differs significantly from the investments of TNCs in other countries. Unlike in Europe, investments in the mining industry and professional, scientific and technical activities (in which exploration activities are reflected) from the Russian Federation make up only 24%. Investments in the manufacturing industry and trade have approximately the same share; in addition, their significant shares fall on financial activities, transport and warehousing, as well as such activities as electricity, gas, steam and air conditioning. As a result, Russian investments are much more diversified compared to European ones, which are concentrated almost exclusively in the field of mineral extraction. Within the context of the investment cooperation impact on the modernisation of the Kazakhstani economy and the social progress caused by it, it can be noted that the role of European investments in the development of progressive manufacturing sectors with highest priority for Kazakhstan is much more modest than the existing potential (Dodonov, 2017). Although the share of the largest Russian TNCs is relatively small, the analysis of the table clearly demonstrates that the Russian capital through small and medium businesses is actively presented in the economy of the Republic of Kazakhstan.

As for the cross-border interaction of the states mentioned above, the collaborative engagement of the border agglomerations should be included in the priorities in the context of the “growth poles” creating. As a result, synergistic effects can be created, expressed in the formation of joint ventures, cooperation networks, industrial and regional clusters, common educational spaces, etc. Regional differences of coterminous countries are important resources of cross-border cooperation by their position in the global economy, in the level and ratio of domestic prices, tax and investment legislation, household income, etc.

Table 1. The role of the EU and EAEU corporations in Kazakhstan's business in 2016, valid legal entities

	Including			Total
	small	middle	large	
Total number of valid legal entities	227,613	6,128	2,362	236,103
Total number of valid legal entities with foreign partnerships	20,644	588	551	21,783
Total number from the EU	3,938	209	256	4,403
EU share in foreign valid entities, %	19.1	35.5	46.5	20.2
EU share in total number of valid entities, %	1.7	3.4	10.8	1.9
Total number from the EAEU	8,059	161	73	8,293
EAEU share in foreign valid entities, %	39.0	27.4	13.2	38.1
EAEU share in total number of valid entities, %	3.5	2.6	3.1	3.5
Russia	7,072	149	69	7,290

Source: Dodonov (2017)

## CROSS-BORDER COOPERATION BRANCH SPECIFICS

Within the context of the economic processes studied, the interaction of industrial enterprises branch specifics along the states border is emphasised. At present time, it is worth mentioning that "Western China – Western Europe" transport route construction (8,400 km) will affect the economic and geographical position of the coterminous regions. The "logistical advantage" will come into a sharp focus on the "Orenburg – Aktobe" route, where a burst of economic activity should be expected due to the production of high value-added products.

According to the fact that there are more than 6,000 joint ventures established by 2016 between the Russian Federation and Republic of Kazakhstan (Nosov, 2016), it is necessary to pinpoint the so-called cross-border image-building projects integrating high money of both countries within the Eurasian Economic Union. The major border areas industrial development investment efforts are:

- development of the Orenburg gas-chemical network manufacturing natural gas of the Aktyubinsk region; formation of the Kazakhstan branch of Kazrosgaz LLP in the Orenburg region. In 2014, Kazrosgaz LLP accepted and ensured the processing of raw gas from the Karachaganak field at the facilities of the Orenburg gas-chemical network in the amount of 8,594 billion cubic meters. There is the production of granulated sulfur for the chemical industry among the prospects for the development of the enterprise;
- the main volume of Kazakh oil transit to foreign markets is carried out through the territory of Russia – "Atyrau – Samara" pipeline (at least 15.5 million tons per year) and through the "Makhachkala – Tikhoretsk – Novorossiysk" pipeline system (up to 5.5 million tons per year). The oil pipeline has been in demand in the field of the fuel and energy complex of both countries for almost 50 years. Since the completion of the "Atyrau – Samara" pipeline construction in 1970, also known as "Uzen – Guriev – Kuybyshev", which has become unique in length (about 1,500 km) and technical solutions, its value has invariably increased. Today, the "Atyrau – Samara" oil trunk

pipeline is the main destination for the export of Kazakh oil through the KazTransOil system. Despite the new oil pipeline and oil transshipment capacities creation (thanks to which the companies operating in the republic significantly diversified oil supply directions) the volume of oil transportation in this direction continues to grow. However, it is necessary to solve a number of issues to increase the attractiveness of the route: improve the tariff policy in accordance with the terms of the intergovernmental agreements, maintain the quality of oil through to the final shipping point (or create an amends system for deteriorating quality);

- in 2010, an intergovernmental agreement on joint activities at the “Imashevskoye” transboundary gas condensate field was signed. In accordance with the terms of the license agreement, after obtaining a license from “Gazprom” and NK “KazMunayGas”, the preparation of geological works will be organized. The project total is \$5.6 billion;
- the release of chromium by the Novotroitsk Plant of Chromium Compounds, which boosted production of high value-added products (metallic and electrolytic chromium) by increasing imports of chromium ore from the Aktyubinsk region in recent years;
- the production of medical equipment (X-ray diagnostic equipment) by the Aktyubrentgen plant, engaged in scientific cooperation with OOO “Uralrentgen”, Orenburg, should be considered a successful business project;
- the formation and development of the agro-industrial cluster, which specialises in deep processing of Russian and Kazakh grain based on an already formed border bioplex in the Omsk Region. Within the framework of integrational cooperation, vegetable gelatin, starch, glucose, feed lysine, amino acids, and alcohol are to produce there. In the future, the “synergistic effect” will show itself as a gasoline eco agents production cluster;

“KAMAZ-Engineering” is one of the first largest and successful Kazak-Russian joint projects on automotive vehicles production in Kokshetau city. The enterprise was established on June 2, 2005, the first tip lorry and bus were assembled on August 5, and later that year the first stock car rolled off the assembly line. All manufactured products are sold on the domestic market of the Republic of Kazakhstan. “KAMAZ-Engineering” was created on the basis of a license agreement between “Kamaz” and “Nefaz” public companies, according to which, design and technological documentation were transferred to its Kazakhstan partner and assembly process is organised. The production is equipped with modern control and diagnostic mechanisms;

the formation of a car clusters in East Kazakhstan is based on AO “Asia Auto Kazakhstan” in Ust-Kamenogorsk city. The launch of the enterprise will take place in 2018, as planned. The enterprise is to become a fully-featured regional production center, since capacities are included in the long-term development strategy of the “Renault – Nissan – Avtovaz” alliance. It is known that one workplace created in the automotive industry automatically creates four jobs in the related industries. This plant will give an additional economic push to the metallurgical and chemical enterprises of the border regions such as Altai Krai and East Kazakhstan Region. The range of cars will include Avtovaz promising models “LADA Vesta” and “LADA XRAY”.

Thus, for that matter it is impossible to disagree with V.S. Bilchak in his statement that “... the criterion for the cross-border integration attainment is the degree of market mechanisms freedom and, therefore, the level of regulatory influence of state bodies”

(Bilchak, 2014). In brief, cross-border cooperation, based on resource and geo-economic situation “differences” and commonality adjacency, plays an important role in the border areas economy development.

## CONCLUSION

The development of the CIS near-border regions is one of the most important research areas in economic geography. Under the conditions of a centrally planned economy in the republics of the former USSR, a vertically integrated system of industrial networks was formed with an emphasis on the implementation of both national and regional economic issues. In the process of transition to a market economy model, there were significant changes in the border regions of Russia and Kazakhstan, due to both governmental and non-governmental objects of international relations. The formation of a single market based on the Eurasian Economic Union stimulated the border regions to use their competitive advantages for investment generation. The processes of integration and transformation are obvious in extraction and manufacturing industries, agriculture, transport and service sector for more than 27 years after the collapse of the USSR. As a consequence, there is an industrial development “regional asymmetry”. The regions manufacturing high value-added products are becoming the core of Russia and Kazakhstan cross-border relations economic development.

## References

- Bashmakov, A.A. (2013). *From border cooperation to Eurasian economic integration*. Alma-Aty: Kazakh Institute of strategic research.
- Biidzhanova, E. (2015). Russian and Kazakhstan border territories: social analyses. *Economic and social changes: facts, trends and perspectives*, 6(42), 224–231.
- Bylchak, V. (2014). Theoretical aspects of border economic cooperation on the basis of intergration processes. *The Baltic Region*, 3 (21), 83–94.
- Chasovsky, V. (2014). Transborder economic cooperation between Russian and Belarus regions. *Pskov regional journal*, 17, 108–117.
- Deutsch, K.W. (1968). *The Analysis of International Relations*, Englewood Cliffs. New Jersey.
- Dodonov, V. (2017). *Economic collaboration between Kazakhstan and EU and social and ronomic effects*. Almaty: Fr, Ebert’s Fund.
- Gusev, L., Kazantsev, A. (2015). Russian and Kazakhstan relations: problems and perspectives. *Management consulting*, 1(73), 29–40.
- Guzenkova, T., Sytina, A. (2014). Border ties: resources of Euroasian intergration and interstate collaboration. *Problems of national strategy*, 1(22), 7–30.
- Haas Ernst, B. (1961). International Integration: The European and the Universal Process. *International Organization*, 15(3), 366–392.
- Kaufmann, F-X. (1997). *Herausforderungen des Sozialstaates*. Frankfurt am Main.
- Khnykina, T. (2016). *Perspectives and trends in the development of border cooperation between Russia and Kazakhstan*. Samara. Retrieved from <https://regrazvitie.ru/wp-content/uploads/2016/01/Hnykina.pdf>
- Lang, W. (1982). *Der internationale Regionalismus: Integration und Desintegration von Staatenbeziehungen in weltweiter Verflechtung (Forschungen aus Staat und Recht)*. Wien.
- Mattli, W. (1999). *The Logic of Regional Intergration*. Cambridge.
- Mitrany, D. (1943). *A working Peace System*. New York.
- Newry, P. (2002). *Transnationaler Regionalismus*. Münster.
- Nosov, A.M. (2016). *Border cooperation of the regions of Russia and Kazakhstan. Problems in the development of border regions of Russia*. Retrieved from [http://artno.ucoz.ru/Download/mars\\_2016\\_1.pdf](http://artno.ucoz.ru/Download/mars_2016_1.pdf)

Vardomsky, L. (2014). *Regionalisation of economic ties in Russia and neighbouring countries*. Moscow.

Yuvitsa, N. (2013). Experience and perspectives of border cooperation between Kazakhstan and Russia. *Omsk State University*, 8(157), 76–81.

**Alexander Burnasov**, PhD, Deputy Head of the Department of Theory and History of International Relations, associate professor, Chair of International Relations, Ural Federal University named after the first President of Russia B.N. Yeltsin, Yekaterinburg, Russia. Research interests: development of transport logistics in the context of globalisation, international communication and international cooperation, history, economy, logistics, globalisation. Author of over 30 works in this field, including 3 monographs.

**ORCID: 0000-0002-9568-4542**

**Address:**

Ural Federal University  
Department of Theory and History of International Relations  
St. Lenin 51, office 386, 620083 Yekaterinburg, Russia  
e-mail: burnasov@mail.ru

**Ilyushkina Maria**, associate professor, Chair of Linguistics and Professional Communication in Foreign Languages, Ural Federal University named after the first President of Russia B.N. Yeltsin, Yekaterinburg, Russia. Research interests: cross-cultural communication, linguistics, world economy and clusters. Author of over 30 works in this field, including 2 monographs.

**ORCID: 0000-0003-4612-3025**

**Address:**

Ural Federal University  
Department of Theory and History of International Relations  
St. Lenin 51, office 386, 620083 Yekaterinburg, Russia  
e-mail: ilyushkina\_maria@mail.ru

**Yury Kovalev**, PhD in Geography, associate professor, Chair of International Relations, Ural Federal University named after the first President of Russia B.N. Yeltsin, Yekaterinburg, Russia. Research interests: innovative regions of the world, processes of convergence and divergence in the world economy, problems of modern economic geography, economic geography, world civilisations. Author of over 40 works in this field, including 5 monographs.

**ORCID: 0000-0002-2272-104X**

**Address:**

Ural Federal University  
Department of Theory and History of International Relations  
St. Lenin 51, office 386, 620083 Yekaterinburg, Russia  
e-mail: yykowljow@gmail.com

**Anatoly Stepanov**, PhD in Geography, professor, Head of the Chair of Economics of Institute of Further Education and Vocational Training, Ural Federal University named after the first President of Russia B.N. Yeltsin, Ekaterinburg, Russia. Research interests: socio-economic asymmetry in the economic development of the regions, the impact of globalisation on the transformation of regions, theory of clusters and cluster strategies, world economy, globalisation, cluster policy, economic geography. Author of over 360 works in this field, including 6 monographs.

**ORCID: 0000-0002-6501-1072**

**Address:**

Ural Federal University  
Institute of Further Education and Vocational Training  
St. Turgenev 4, office 350, 620083 Yekaterinburg, Russia  
e-mail: anatoly\_stepanow@mail.ru

**Gulnara Nyussupova**, professor, Head of the Chair of Geography, Land Management and Cadastre, Kazakh National University named after Al-Farabi, Almaty, Kazakhstan. Research interests: socio-economic asymmetry in the economic development of the regions, the impact of globalisation on the transformation of regions, GIS technology, economic geography. Author of over 300 works in this field, including 5 monographs.

**ORCID: 0000-0001-5294-2671**

**Address:**

Al-Farabi Kazakh National University  
71 Al-Farabi avenue, 050040 Almaty, Kazakhstan  
e-mail: Gulnara.Nyusupova@kaznu.kz