The article focuses on a possible classification and description of the real situation in the regions of Russia whose developmental trends have not been included so far in the studies about the processes the state really undergoes. The main thesis of the work boils down to stating the extraordinary diversity of the level and type of development of individual subjects of the Federation. A helpful method for describing the state of Russian regions is first and foremost the observation of changes in energy consumption for lighting purposes based on satellite images. The author divides Russia’s socio-regional body into the First Russia (cities populated by more than 500 thousand inhabitants), the Second Russia of smaller cities and towns and the Third Russia – the country’s peripheries. The conclusions of the study are not optimistic as they emphasize the extinction and underdevelopment of most of the state’s territory (representing the Third Russia) accompanied by the unnatural growth of the metropolitan areas, with Moscow and St. Petersburg at the forefront.

**Key words:** Russia, regions, development, inequality
THE POST-SOVIET AREA: A VIEW FROM SPACE

Thirty years have passed since the collapse of the Soviet Union and the entire Soviet bloc, one of the most important events of the 20th century. Over the last decades, dramatic changes have taken place on the territory of Eurasia. The scale of transformations makes them visible even from space. Unfortunately, no proper systems analysis or description of the new reality that emerged in the post-Soviet space have been put in place so far.

For many years, the National Oceanic and Atmospheric Administration (NOAA) has been running the project "Nighttime Lights of the World", publishing every year a detailed map of the night lights on Earth. Such a study facilitates an understanding of the changes in the distribution/spread of the population; it also shows the development of cities and changes in transportation routes. The distribution of night lights on the planet’s surface distinctly represents the growth or decline of particular regions.

On a satellite map, Western Europe is one of the brightest and most urbanized areas of the world. The EU’s extensive road network looks like a crystal net, connecting numerous stars made by city centres. In turn, the vast area of Russia seems to be mostly dark space across which a long comet is flying. The bright head of the comet is the European part of Russia with two shining supernovas – Moscow and St. Petersburg. The long tail of the comet is formed by the settlements along the Trans-Siberian Railway, stretching in a thin line from Moscow across central Asia to Vladivostok. The few bright spots in Siberia mark some cities and the oil and gas fields in Urengoy and Khanty-Mansiysk.

1. Map of night lighting of the Eurasian area (according to NOAA)

The Nighttime Lights of the World project not only publishes yearly satellite photos of the Earth at night but also processes and analyzes data. With the help of weather satellites, the lighting of the night part of the Earth has been registered dynamically since the start of the observations in 1993. This period almost perfectly corresponds to the time of post-Soviet transformation of the Eastern bloc countries. By comparing the lighting maps from the last 25 years, an attempt can be made to understand how the life of different regions of the world has changed over that time.

In digitally processed NOAA maps, the colour red marks new sources of light on the Earth’s surface, and colours from pink to yellow – areas where the lighting level (of varying intensity) has not changed. Different shades of sky blue mark a decrease in the intensity of lighting. Finally, electric blue marks those spots on the Earth’s surface where the night lights have significantly decreased or even disappeared.

So, what do we see from space? The entire old Europe – Germany, France, Italy – shines bright yellow: the rich have become richer. A red island stands out, representing the Irish economic miracle. There are many red and yellow spots on the territory of Poland – this means that the Polish economy has significantly developed after the collapse of the Soviet bloc and accession to the EU. Yet, the Balkan EU members have been less lucky – Bulgaria and Romania are in the blue zone.
Almost all countries included in the Eastern Partnership program are in sky blue and blue zone. The brightness of Belarus has significantly decreased; Moldova, Georgia, and Ukraine have experienced significant degradation. On the map, Crimea stands out as a blue triangle – even from space it is clear that this is a problematic asset. From the geopolitical point of view, the post-Soviet “buffer states” located between the East and the West are the subject of interest in the current Great Game. However, from a geo-economic point of view, over the years that have passed since the collapse of the USSR, the economies of these states have shrunk, their population scattered, and only the dregs of the society remain.\(^1\)

In the European part of Russia the situation is ambiguous – growth can be observed only for large cities, which have turned into large yellow stars. What is particularly noticeable is that Moscow and its suburbs are burning brighter and brighter with each passing year, resembling a cluster of stars in the centre of a galaxy. Yet, the vast territories of Siberia and Far East are painted sky blue or even electric blue, with a few yellow and red spots in the north marking the oil and gas fields.

As can be seen, the scale of changes in the post-Soviet area is truly cosmic. The scale of the difference between the former USSR states and those that were the former

members of the Eastern bloc can be found in a series of reports *Human Development Indices and Indicators* on the UN webpage.\(^2\)

For example, the 2017 assessment included 189 countries; out of them, 59 are considered developed countries and 39 – underdeveloped, while for instance the 2010 ranking listed 46 countries as developed and 49 as underdeveloped. The UN ranking was based on the estimated average life span, estimated average education length, and the gross national product (GNP) *per capita*.

All the former USSR states can be divided into four groups (conditional classification):

1. The first league are the Baltic states, which have received extensive help from the EU: Estonia (ranked 30\(^{th}\)), Lithuania (36\(^{th}\)), and Latvia (41\(^{st}\)). Incidentally, Poland is at a comparable level (33\(^{rd}\)) and Germany, the European leader, is far ahead in the 5\(^{th}\) place.

2. The second league are the countries belonging to the “Eurasian troika” (Евразийская тройка) – Russia (49\(^{th}\)), Belarus (52\(^{nd}\)), and Kazakhstan (56\(^{th}\)). These three states are the leaders of the project of Eurasian integration in the post-Soviet space – Eurasian Economic Union EAEU (Евразийский экономический союз, ЕврАзЭС). Evidently, genuine integration occurs only between countries whose potential is sufficiently developed and comparable.

3. The third league are the members of the Eastern Partnership (EaP) – Georgia (70\(^{th}\)), Azerbaijan (78\(^{th}\)), Ukraine and Armenia (84\(^{th}\)), and Moldova (112\(^{th}\)). They are ranked much lower than the states integrated with Europe or within Eurasia. This is the price the EaP countries paid for hesitating too long before making a civilizational choice between the East and the West. It is worth reminding that directly after the collapse of the USSR experts from Deutsche Bank called Ukraine the most advanced state in terms of European integration and estimated its economic potential as 80% of that of East Germany.

4. The fourth league are the Turkestan states: Uzbekistan (105\(^{th}\)), Turkmenistan (109\(^{th}\)), Kyrgyzstan (120\(^{th}\)), and Tajikistan (129\(^{th}\)). They are balanced in the ranking between Third World countries and fragile states such as Afghanistan.

Even such a simple tool as a summary UN ranking demonstrates that there are huge differences between the former Soviet states in terms of development. In times of the Soviet bloc, all these countries had a similar level of development, and they began their own post-Soviet modernization at the same time. However, a great developmental gap ultimately emerged – the former Eastern bloc countries and the former USSR states now belong to different worlds.

Very similar differences in the intensity of night lighting are visible on a satellite map of Russia’s regions. This means that the changes which have occurred within Russia are not less dramatic than those that took place in the borderlands of the former

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USSR. However, so far there has been no systemic description of the new reality that has emerged from the ruins of the Soviet Union.

A famous Russian sociologist Leontiy Byzov described this problem by stating: “The Russian society is divided; it lives in several civilizations at the same time.” Let us see how significant the economic and social differentiation is of the Russian area.

FOUR RUSSIAS OR ONE COUNTRY?

A center-periphery model of Russian space: four divergent Russias

According to the official data, Russia is the ninth most populated country in the world, with a population of 146,877,088 people (2019). It is the largest country in the world – 17,075,200 km². On such a vast territory there are as many as eleven time zones and four different climate zones: arctic, subarctic, temperate, and subtropical.

This large country includes different settlements which follow different ways of life, and where the clock of social life ticks at a different pace. Great climatic and regional differences notwithstanding, a factor of growing importance are differences in the standard of living, lifestyle, and a system of values that can be observed between the populations of large and medium-sized cites, small towns, and rural peripheries of Russia.

A leading Russian expert on regions, Professor Natalya Zubarevich put forward a theory of “four Russias”, according to which the population of the Russian Federation is quite distinctly divided into four groups according to types and sizes of settlements. This concept seems to provide a fine basis for this study, and it resonates well with the approach of Western researchers such as Richard Rose, who speaks about pre-modern Russia, industrial Russia, and post-modern Russia.

What are the four Russias that can be found in the Russian Federation – formally a unity? As Natalya Zubarevich writes, the economic and social differences within the Russian territory are large and stable. The center-periphery model is based on the hierarchical system of settlements – from the most modernized large cities to the patriarchal country.

“The first Russia” comprises the largest cities. The cities with a population of over one million and their satellite towns are inhabited by 21% of Russians. If the cities whose population exceeds half a million are added, this number rises to 31% – almost a third of the country’s population.


4 See the book Putin’s Russia. How It Rose, How It Is Maintained, and How It Might End, published in 2015 by American Enterprise Institute. AEI (Washington, DC). The chapter on Russian regions was written by the director of the regional program of the Independent Institute for Social Policy, Doctor (habilitated) of Geography, Professor Natalya Zubarevich.
The leaders of the first Russia are federal cities with a post-industrial economic structure and high level of economic development. Actually, this is the first world living at European standards. The population has a significant percentage of middle class (30-40%) and educated people (in Moscow and Sankt Peterburg, 39-43% of inhabitants older than 15 have higher education); high employment in small business and wide availability of the Internet.

At present the financial and human resources of the entire country are concentrated in large Russian cities, particularly in its capital – Moscow. The percentage of large-city inhabitants in the general population of the country is still growing due to migration from different regions of Russia and the neighboring countries.

Approximately 9% of Russians live in cities with a population between 250 thousand and half a million; most of these cities are capitals of the regions. For a Russian city, a metropolitan status means that its socio-economic development is more balanced, but it often has insufficient human and financial resources to carry out a full European-style modernization. This is the intermediary zone between the “first” and the “second” Russia, and the specific situation differs from town to town. If the standard of life in Moscow is similar to Germany, the capitals of regions rather resemble Poland.

“The second Russia” includes smaller cities and medium-sized towns with the population between 50 and 250 thousand. Their inhabitants amount to less than 30% of the Russian population. Such towns have maintained their industrial specialization and the industrial framework dating back to the times of the USSR, and they still adhere quite strongly to Soviet values. There are many state employees, usually with low qualifications.

The economic situation of the second Russia’s towns varies significantly: in towns where the economy is based on oil and gas extraction or those with large metallurgical and coal industry (i.e. export economy towns), the inhabitants have high incomes. The standard of living is similar to that of Slovakia or Slovenia. In towns with import-substitution industry (engineering, food etc.) wages are much lower than in regional centers. Considering the standard of life, such towns are perhaps at the level of Bulgaria or Romania.

The citizens of mono-towns (монопрофильные города) should be placed in a separate category. Around 10% of Russian city-dwellers live in such towns, of which there are over 150. In the Soviet Union, mono-towns were built around a single large enterprise – an automotive factory, a military industry complex, a mine, a blast furnace, a chemical plant or textile mills. During the economic crisis and perestroika, their fate resembled Russian roulette: some were lucky and stayed afloat while other mono-towns turned into disaster zones.

“The third Russia” consists of rural peripheries as well as the inhabitants of villages and small towns with population below 20 thousand – in total over a third of the country’s population, the least educated and the least mobile. The majority of them work in the public sector and farming, and a high percentage work in the gray zone.

At present the third Russia is depopulating fast. Old people are dying out, young ones leave for universities or to work in regional centers and they seldom return. The type of
local lifestyle is difficult to assess – in one place it may resemble Polish villages in the Podkarpackie province, in another – life in the rural areas of Bulgaria or even Albania.

“The fourth Russia” is a very specific type of periphery, characteristic of the poorly developed republics of the North Caucasus (5% of the country’s population). They differ very significantly from the rest of Russia: there is low degree of urbanization and a high fertility rate. A patriarchal-clannish society structure still exists there, combined with ethnic conflicts. Religion continues to play a great role. In actuality, it is a separate Islamic state with their own way of life and defiant approach to the laws of the Russian Federation. For example, the 5% that constitutes the fourth Russia and inhabits 1% of the country’s area is responsible for 80% of unpaid gas and electricity bills.⁵

A question arises: are “the four Russias” a comfortable theoretical abstraction or an objective reality?

To answer this important question, we need to look at Russia from space again – however, not with cameras, but focusing on radio waves. Data collected from mobile service providers allow for a precise determination of economic and demographic characteristics of individual regions or even settlements in real time.

The map of different standards of cell phone service on the entire territory of the Russian Federation, presented by the Russian provider Tele-2, contains a visual representation of three different Russias. The most modern 4G system (very fast Internet, high-definition video) can be found in the largest cities – it is the privilege of the first Russia. The 3G standard (guaranteed phone connections and unlimited internet, music and video streaming) belongs to the second Russia and covers medium-sized cities. The simplest 2G system (phone services, Internet for communication and social networks) does not cover the entire country, but only its “third Russia” part.

⁴ Map of 2017 mobile coverage in Russia for different standards offered by the Tele2 operator


The map clearly demonstrates that the relative “brightness” of data generated on the basis of millimeter-long waves used by mobile telephony is even lower than for data based on visible light. For example, the Trans-Siberian Railway line is not fully covered with dots, which suggests that the economic activity and population density in the vast territories of Russia behind the Ural are too low to establish a cellular network there.

A coverage map from another Russian operator, MegaFon (МегаФон), shows that the 4G standard covers the 11 cities with over 1 million inhabitants as well as 70 other large cities. Together they account for a third of the Russian population. This information is compatible with the data presented in Natalya Zubarevich’s book and warrants considering the theory of “four Russias as correct.”

5. Map of 4G coverage of large Russian cities, provided by the MegaFon mobile phone operator

Let us note that large differences between the center and the peripheries are typical for post-Soviet countries as well. This can also be observed in other countries, which have implemented the strategy of closing that gap. However, in Russia such differences have their characteristic features, including:

- very visible separation of the largest cities of the Federation, particularly Moscow
- significant differences in the socio-economic development of medium-sized towns producing goods for export or for the internal market
- vast areas of “Russian” peripheries experiencing degradation and depopulation

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6 Н.В. Зубаревич, Регионы России: неравенство, кризис, модернизация, Москва 2010.
The division of Russia into the four Russias is based on long-term factors and is very stable; the proportions change slowly. So what are these factors? One can differentiate three main points: different climate zones, the ongoing process of urbanization and the infamous “Russian roulette”, i.e. spontaneous modernization or archaization of some regions during post-Soviet transformation.

THREE REASONS BEHIND THE FORMATION OF FOUR DIFFERENT RUSSIAS

Reason one: the climate

The territory of Russia lies in the north-eastern part of the Euro-Asian continent, an area with extreme environmental conditions: almost ¾ of the territory is in the North. In terms of comfortable conditions of living, Russia can be divided into four large blocs:

- the most favorable regions are located in the west part of the country, their eastern border follows the line Sankt Peterburg – Moscow – Samara – Volgograd Stavropol – Makhachkala;
- favorable regions are located in the remaining areas of the European part, partially in the south of West and East Siberia, and in the far south-eastern area of the Far East;
- vast territories in the Asiatic part of the country, the northern border of which follows the line Salekhard – Igarka – Yakutsk – Magadan, are unfavorable;
- extremely unfavorable regions include the Taymyr Peninsula and the coast of the Arctic Ocean, the lower reaches of the great Siberian rivers Ob, Yenisei, and Lena as well as the coast of the Magadan Oblast and the Chukchi Peninsula.

Thus, three-fourths of the Russian territory is almost unsuitable for people to live comfortably. On the map of the population density of Russia, one can see a great white shape encroaching into the country from the north and east like a Greenland glacier. This demonstrates how strongly the extreme climate of Russia influences the process of human settlement and the country’s economy.

Let us note that there are almost no permanent inhabitants or large towns in the northern territories of Canada and Alaska, which have a similar climate. In Russia, however, the Siberian and northern regions are sufficiently developed and settled.

The cause of this phenomenon is that 90% of the natural resources are concentrated in the eastern regions of the country and 75% of them are used in the European part. The role of fuel and energy resources in the Russian economy is difficult to overestimate as they are the basis of approximately half of the export potential of Russia.

Actually, only small areas in the west of the Central Region, the entire Central Black Earth Region, and the center of the Volga region have climate familiar to Europeans, which partially resembles that of Eastern Europe. For example, among large European cities only Copenhagen is located at the same latitude as Moscow (54.0°N). Most of the
The territory of Poland is located much further south, at (52.0°N), which corresponds to the Central Black Earth Region: Warsaw (52.53°N) is located at the same latitude as Tambov (52.43°N), while the former capital of Poland – Krakow – is located at the same latitude – 50.4°N – as Belgorod, the southernmost regional center in central Russia.

6. Map of climate zones and belts of Russia

![Map of climate zones and belts of Russia](https://mtdata.ru/u30/photoD41D/20800664459-0/original.jpeg)


7. Map of population density in Russia

![Map of population density in Russia](https://rock-cafe.info/posts/population-density-706f70756c61746966e.html)

It is worth noting that the entire Central Black Earth Region differs from the rest of Russia due to its mono-ethnic population (97% are Russians) which is also homogenous in terms of religion (78% are Orthodox Christians), so from the anthropological and social point of view this region is sometimes called “the second Poland”.

**Reason two: urbanization**

The territory of contemporary Russia has experienced three waves of urbanization: there were two waves of modernization (imperial and Soviet) that included emergence of large cities as industrial and cultural centers, while the third has been the post-Soviet wave of deindustrialization, involving the depopulation of large territories and compression of the population in large cities or along highways and railways. For example, in the last 25 years, the number of factories in Russia decreased by approximately 80 thousand.

The first cities with a population exceeding one million citizens appeared in tsarist Russia towards the end of the 19th century. The census of 1897 revealed that the leader at that time was the capital Petersburg (1265 thousand inhabitants) while Moscow (1039 thousand) was the second. Interestingly, the third place was taken by Warsaw (626 thousand).

Just before the outbreak of World War I, the list of the dozen largest cities of the Russian Empire was as follows: Petersburg, Moscow, Warsaw, Odessa, Lodz, Riga, Kiev, Kharkov, Tiflis, Tashkent, Vilnius, and Saratov. Today, only three out of this golden “tsar’s dozen” of big old cities – Petersburg, Moscow, and Saratov – are still in Russia.

In the last years of the Soviet Union, there were already 24 cities with at least 1 million inhabitants. According to the census conducted in the late 1980s, apart from Moscow (8 million) and Leningrad (5 million), the five largest cities in the USSR were: Kiev (2.5 million), Tashkent (2 million), Baku (1.7 million) Kharkov (1.6 million), and Minsk (1.5 million). Other cities of this size were the capitals of the Union’s republics, which were industrial, research, and cultural centers.

After the collapse of the USSR only half of those cities remained within the borders of the Russian Federation. These circumstances led to future disproportions, widening the gap between the two largest federal cities – Moscow with over 12 million official inhabitants, and Sankt Peterburg, the population of which exceeds 9 million – and the other towns.

Other cities with a population of over 1 million are located in Siberia and in the Volga region; this clearly demonstrates that the economic life of Russia is gradually moving eastwards.

At the beginning of 2019, a total of 16 cities in Russia had more than a million residents. They can be divided into two groups – those with high dynamics of development (Sankt Peterburg, Ekaterinburg, Kazan, Krasnodar, Ufa, and Saratov) and those

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with low dynamics of development (Nizhniy Novgorod, Novosibirsk, Krasnoyarsk, Rostov, Omsk, Perm, Volgograd, Voronezh, and Chelyabinsk). With its status of the capital, Moscow stands out like the shining island of Laputa as up to 80% of cash flow in the entire country is concentrated there.

8. Map of population distribution in Russia, including the largest cities


LARGE GROUPINGS: AGGLOMERATIONS, FEDERAL DISTRICTS, AND MACROREGIONS

The regional network of towns and regions of Russia has remained practically unchanged since the times of Catherine the Great. However, Russian authorities continuously try to optimize this heterogeneous set of regional formats, combining them into larger blocs, which are easier to govern. Let us discuss three basic projects of this type implemented in the post-Soviet period – agglomerations, federal districts, and macroregions.

Agglomerations

The abandonment of the Soviet projects for development of the North, Siberia, and the Far East together with recession in industry led to a significant population movement
out of the interior of the country. There has been increasing internal migration to southern and central regions of Russia and to large cities, around which agglomerations have been forming gradually. This points to a paradigm shift in the Russian strategy of regional development in comparison to the Soviet era.

Thus, in 2014 there were 124 agglomerations forming in Russia, inhabited by 85 million people (almost 60% of the country’s population). This included 17 agglomerations with over a million citizens each, 27 agglomerations with 500-999 thousand citizens, 45 in the 250-499 thousand bracket, and 34 inhabited by 100-249 thousand people.

9. Map of city agglomerations in Russia

A city agglomeration is a compact cluster of settlements, mainly urban, in some places merging, which are connected and form a complex, multi-element dynamic system with intense production, transport, and cultural interconnections.

One of the most frequently discussed scenarios of the development of Russian territory was the project of creating conurbations – a sort of a constellation of agglomerations, which was to unite large cities of equal importance within a given radius. This utopian idea was put forward during President Yeltsin’s tenure, at the turn of the 21st century.9

According to that plan, all the citizens of the country were to be gathered in six or seven agglomerations, while the rest of the vast Russian territory was to be turned into a “powerful tourism cluster”. This reminds us of the famous quote from Ober-Procurator

Konstantin Pobedonoscev: “Russia is an icy desert where valiant man wanders”. Fortunately, the implementation of this fantastic idea was postponed by the Kremlin, and ultimately abandoned when President Putin came into power. A new regional structure was created instead: federal districts.

10. Map of the main Russian agglomerations in terms of population

Source: “Карта главных агломераций России по численности”, at <https://www.leonidvolkov.ru/media/bim/1d/00/1d00520cd810426f8229b25af1c9b693.jpg>, 9 December 2019.

Federal districts

The creation of seven federal districts was one of the first changes made by President Vladimir Putin with regard to regional policy. It should be noted that federal districts have not been envisioned in the Russian constitution and were created by the president’s decree as part of his competences. The districts are an intermediate administrative level of governance, created to facilitate centralized management and to control the situation in many different subjects of the federation.

The presidential envoy to the federal district formally is not a superior of the heads of the subjects that form the district. However, his role is to be the “ruler’s eye” – as the representative of the President of the Russian Federation he coordinates the work of all the territorial bodies of federal executive institutions at the district level.

Seven federal districts were initially established; after the incorporation of Crimea and adjustment of the districts’ composition, their number remained practically unchanged. In terms of the number of subjects and population, the largest district is the Central District, while in terms of territory – the Far Eastern District. A singular feature of the Ural District and the Central District is that there are no republics among
their subjects. In turn, in the North Caucasian District there is not a single oblast (area/province), although there is one krai (a territory); furthermore, this district is the only one where ethnic Russians (русские) are not an absolute majority – in turn, their percentage is the highest in the Central District.

11. Map of federal districts in Russia

All districts have land borders with other countries. Some subjects of the Northwestern and Far Eastern District have no land border with other subjects or with the Russian mainland. The Central, Volga, and North Caucasian district have no access to the oceans (although the latter two have access to the “international” Caspian Sea). In terms of industrial and agricultural production, the Volga District is the leader in Russian economy, while the Ural District offers highest tax offsets, which shape the federal budget.

If one looks closer, it becomes evident that the borders of federal districts almost match the borders of the military districts. The entire territory of Russia is divided into six Military Districts of the Ministry of Defense and one special region. The Moscow Military District corresponds to the Central Federal District, while the North Caucasian Military District – the Southern Federal District. The borders and names of two military and federal districts – the Siberian and the Far Eastern – are the same. The Volga-Urals Military District includes the territories of the Volga and the Ural Federal District. Before 2010, the Kaliningrad Special Region (a region in the Northwestern
Federal Region) was a separate territory. The other part of the Northwestern Federal District was the Leningrad Military District. This meant that at the beginning of the 21st century, the communications systems belonging to the military were the only reliable channels of public administration.

In general, the introduction of federal districts formed a part of the new Kremlin policy, aiming to strengthen the “vertical structures” (вертикали), i.e. central control institutions. The creation of new districts caused dissatisfaction among many regional elites and tempestuous debates as to their effectiveness. Over the last twenty years the envoys of the President of the RF have not become Gauleiters or new governors-general, and the districts themselves did not turn into centers of economic growth. This last issue required a return to the tried and tested Soviet practice of dividing the country into economic macroregions.

**Macrouregions of Russia**

Geographers and economists usually divide Russia into two large blocs: the western (the European part) and the eastern (the Asian part). These blocs differ from one another in terms of development characteristics and settlement patterns as well as the set of national economy sectors and development problems.

The western part represents 1/4 of the Russian territory but 3/4 of all the inhabitants of the country live there. The main research, technical, industrial, and agricultural potential of the country is concentrated in this territory, and most of the goods and services come from there as well.

In the European part of Russia, the majority of cities have a population of over a million (Moscow, Petersburg, Nizhniy Novgorod, Novosibirsk, Samara, Kazan, Rostov, Perm, Ufa, Ekaterinburg, Chelyabinsk, and Volgograd). This territory comprises the following economic zones: Central Russia, Northwestern Russia, European North, Volga-Urals, and European South.

The Asian part of Russia occupies 3/5 of the country’s territory, but the Eastern Economic Zone is sparsely populated, with only 22% of the country’s population living there. However, the main Russian fuel and energy base has developed there; this region is also the main supplier of non-ferrous metals, fish, and forest products. The East has three economic regions: West Siberian, East Siberian, and Far Eastern.

On February 15, 2019, Russian Prime Minister Dmitry Medvedev approved the most important document – the *Strategy of Spatial Development of Russia until 2025* (Стратегия пространственного развития России до 2025 года), according to which the territory of the country has been divided into 12 macroregions: Central, Central

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12. Map of the economic macroregions in (according to the data of the RF government)

![Map of the economic macroregions in Russia](http://www.acexpert.ru/public/content/2019/macroregions.jpg)


The main principles governing the creation of macroregions include:

- Territorial unity of the subjects of the RF, characterized by the adjacent location,
- Significant potential for interaction and interregional cooperation,
- Location of one or more main centers of economic growth in each macroregion,
- Accessibility (or the possibility to build) transportation facilities and energetic infrastructure, as well as access to international markets and West-East or North South transport lines,
- Presence or the possibility to build institutions that are branches of the social sphere of federal importance, contributing to increased interconnections within the macroregion.

The document describes five groups of regions: post-industrial regions specializing in high-tech industries as well as market and educational services; regions with diversified industry, producing goods; agricultural-industrial and agricultural-service regions, with employment mostly in agricultural-industrial complexes. The fifth group of regions identified by the Ministry of Economic Development specializes in the extraction and processing of mineral resources and is described as the energy resource group.

For example the Moscow and Petersburg agglomerations as well as eight regions with the defense industry such as e.g. the Nizhny Novgorod Oblast can be classified as post-industrial regions.
Regions with diversified industry include the regions of the Far Eastern Federal District and Krasnoyarsk Krai. The Rostov Oblast, Stavropol Krai, and Krasnodarsk Krai can be identified as agricultural-industrial regions, while the Voronezh, Tambov, and Tomsk Oblasts – as agricultural-multiservice regions. The energy resource regions are the Tyumen Oblast, the Yamalo-Nenets, and Khanty-Mansi Autonomous Okrugs as well as Yakutia.

The macroregions are actually old Soviet economic regions, within which it was easy to stimulate territorial and sectoral development. The new strategy of state development is based on Soviet experiences of economic regionalization, yet it has much lower potential to foster ties between regions as the strategy does not consider the dramatic changes of the last decades. Mobile operators’ data *de facto* shows us a slightly different image of the regions.

On the one hand, experts welcome the authorities’ attempts to restore economic zoning. It is high time to create horizontal economic ties so that stronger regions support the development of the weaker ones instead of all being centrally managed by Moscow.

On the other hand, the experts have noted that the current concept of macroregions implies no significant changes – neither in the state budget system, nor in the nature of relations between the federal center and the regions. Therefore in today’s conditions, the potential of such innovation may be low, and the idea itself may be stillborn.
THE ECONOMIC RANKING OF RUSSIA’S REGIONS: WHO IS THE MOST IMPORTANT?

The assessment of Russian regions makes it possible to describe the changes in individual regions’ development and to estimate their contribution to the country’s economy. Interesting results can be obtained by studying the annual report of the RIA Russian News & Information Agency, which published a series of comparisons of the regions’ economic ratings focusing on different factors. The number of such indicators exceeds 70 although some of them (e.g. the degree of the environment comfort) seem to be quite subjective.

At a glance, one can notice the main factor – large differences between the conditionally “equal” regions representing Russia’s administrative units, as particular indicators may differ by several orders of magnitude. At present Moscow, the Moscow Oblast, and the oil and gas regions, which are leaders in terms of income and investments, stand out in the group of most successful regions. This is an obvious consequence of the development of the oil and gas sector of the Russian economy as well as the hypercentralization of large firms and the concentration of cash flow in Moscow.

14. Ria Rating 2017. Assessment of the standard of life on the map of Russia

Kazakh analyst Marat Shibutov proposed simpler and clearer criteria for ranking Russian regions. This approach, already well grounded in Kazakhstani research, only analyzes regions from the point of view of macroeconomy. The assessment uses five basic parameters, taken from official statistics: budget revenues and expenditures, population, gross regional product, and the level of investment in fixed assets.

Evidently other factors are also important for the macroeconomy, such as: transport, number of large industrial companies, employment level, income per capita, and a large number of other parameters. However, Shibutov’s method seems to be quite comprehensible: it presents the most important aspects and provides an objective description of Russian regions. Following this approach, seven quite distinct groups of regions were identified.13

Firstly, the study results show vast differences between regions:

1. In terms of budget revenue, the maximum can be observed in the capital megapolis of Moscow (RUB 2 trillion), 147 times the minimum observed in the Jewish Autonomous Oblast (RUB 13.6 billion).
2. Moscow also has the maximum budget expenditures (RUB 1.9 trillion), 133 times the minimum recorded for the same Jewish Autonomous Oblast (RUB 14.3 billion).
3. In terms of population, the maximum is found in Moscow (12,381,000 people), 248 times the minimum recorded for the Chukotka Autonomous Okrug (50,000 people).
4. Gross regional product – maximum in Moscow (RUB 13.5 trillion), 357 times that of Sevastopol (RUB 37.9 billion).
5. In terms of investment in fixed assets, the maximum is found in the Tyumen Oblast (RUB 2.16 trillion), 253 times that of the Tyva Republic (RUB 8.5 billion).

As can be seen, the differences between Russian regions can be objectively represented as three-digit numbers – very high values for the Federation subjects, formally political equals.

The next group of leaders comprises seven regions which have a very strong economy and generate large revenues for the budget of Russia. At the head of this list is Sankt Petersburg, followed by Krasnodar Krai, Tatarstan, the Sverdlovsk Oblast, Bashkortostan, Krasnoyarsk Krai, and the Rostov Oblast.

Each member of this “magnificent seven” has a balanced economy and has their own strengths. In simple words, due to their particular features, each of the seven regions is in some way important for the Russian economy. For example, the lack of agriculture in Krasnoyarsk Krai is compensated by its vast areas of forest, while Petersburg is one of the largest transit ports.

After the top seven, the indicators of economic importance begin to drop as the list continues from the most intensely developing territories to the lagging regions of the North Caucasus, Far East, and the territories of the deep interior, i.e. Altai and Tyva,

which can be easily described as being in deep depression. These regions are either too small to fully develop or their economy encountered great problems in the post-Soviet era, for example the Pskov Oblast, suffering from significant depopulation and deindustrialization. It is likely that the subjects occupying the bottom of the ranking will have no opportunities to fully develop in the nearest future.

It is worth noting that the Kaliningrad Oblast, which borders Poland, in the macroeconomic rating can be found in the group of laggers, while the Central Black Earth and Volga regions are considered as intermediary or successful. This means that Polish experts cannot assess the level of development of all of Russia based only on trips to Kaliningrad in depression and to shining Moscow – field research should be conducted in different regions of Russia.

Marat Shibutov’s method was also applied to create an economic importance assessment for federal districts. Two outliers are immediately visible – the Far Eastern and North Caucasian Federal Districts. Intermediary districts are the: Siberian, Ural, Northeastern, and Southern Federal Districts. The leaders in the macroeconomic ranking are the Central and Volga Federal Districts. In fact the evaluation of federal regions roughly corresponds to the historical formation of Russia and demonstrates the significant influence of two earlier industrialization waves – the imperial and the Soviet one.

A separate, extensive study is needed to analyze the complex factors that resulted in such an inconsistent state of Russian regions and districts. However, even this simple macroeconomic assessment of Russian regions can lead to important and far-reaching conclusions.

So, the disparities between regions are vast, and individual parameters may differ by several orders of magnitude, yet the current administrative and territorial division of Russia does not take objective economic indicators into consideration. Moreover, some Russian regions are too small and backward to fully develop a modern economy.

In the nearest future, Russian authorities will have to choose between two elementary strategies – either to develop the already affluent regions or to support the lagging ones so as to eliminate disparities. This question has been the subject of a public debate, yet the increasing population migration, both internal and from post-Soviet states, as well as the failure of state programs for the development of the Far East and the North Caucasus demonstrate that the economy requires the former approach.

It is interesting to compare the contribution to macroeconomy and the distribution of news concerning individual Russian regions. It turns out that the North Caucasus republics (Chechnya in particular) receive much more media and political attention than they deserve considering their economic achievements. Furthermore, the North Caucasus is a constant source of problems – as mentioned before, this 1% of Russian territory and 5% of the country’s population is responsible for 80% of debt resulting from unpaid gas and electricity bills.

This confirms the well-known opinion that bad news sells best. It can serve as a warning against studying regions solely on the basis of press communications and media news – detailed field research is necessary.
An important and separate issue is the functioning of the megalopolis consisting of Moscow and the Moscow Oblast. The Moscow agglomeration has become a state within the state or, so to speak, a separate economic region which differs significantly from the rest of the Central Federal District. Its development can be compared with the growth of such megalopolises as the BosWash Megalopolis, the Rio de Janeiro Metropolitan Region, the London Metropolitan Area, and Greater Mexico City. However, a deeper understanding of the problems of the Moscow agglomeration requires a new research approach and objective data.

15. Map of the Moscow Metropolitan Area according to geolocation data

The urban agglomeration is a close concentration of settlements of mostly urban type, in places joined, connected in a complex, multi-component dynamic system with intense production, transport, and cultural connections.

The Moscow agglomeration

At present, the area of the Moscow agglomeration amounts to at least 20,000 km². According to the official data, it is inhabited by about 17.4 million people (in Rossat data, the population of Moscow is approximately 12 million and that of the Moscow Oblast – 5 million), but the actual number is much higher. According to more precise data collected by mobile phone operators, many citizens of the territories adjacent to Moscow stay in the capital permanently; as a result, the population of the city reaches 25 million people.

At the City Planning Forum in 2016, the Mayor of Moscow Sergey Sobyanin complained that official statistics do not always fully represent the actual situation. “If we consider the whole Moscow agglomeration, we will drag another 15 million people into this funnel,” said Sobyanin in an interview for RIA Novosti. He emphasized that the figures also included people living in towns in the Moscow Oblast. Thus, even as many as 40 million people may be participating in the life of the Moscow agglomeration.

The Moscow agglomeration comprises approximately a hundred cities, including some located in the neighboring oblasts. It is the largest post-industrial center, which includes about thirty science cities (наукограды) – almost half of all those located in Russia.

The agglomeration framework is formed by a multi-branch transportation hub with 11 railway lines, 13 highways, and the waterways of the Moscow River and the Moscow Canal as well as the Oka and the Volga Rivers. The transportation hub determines the configuration of the Moscow agglomeration as a multipoint star, a figure clearly visible on the satellite map of the Earth’s night lights.

16. Map of coverage of different mobile phone operators in the Moscow Metropolitan Area


And almost continuous belts of settlements, stretching for dozens of kilometers and expanding particularly in the direction of Riazan, Yaroslavl, and Vladimir, are formed along the transport lines. Within the agglomeration, rings of cities have grown at equal distances from Moscow, also including some towns located on the territory of other regions.
Greater Moscow is visibly getting closer and closer to other cities – Kaluga, Tver, Vladimir, Riazan, and Tula. The satellite map of the Moscow agglomeration as well as the mobile operators’ data resemble the borders of the Grand Duchy of Moscow from the end of the 15th century. Historical irony sometimes manifests itself in the fact that we have to use methods of the future to understand how we have fallen into the past.

In Russia there is a total of 20 agglomerations with a population of over one million, but the Moscow agglomeration is the richest, even considering the world standards. The capital of Russia is third (after New York and Hongkong) in the ranking of megapolises which are home to billionaires. According to Forbes, 60 billionaires presently live in Moscow (77 in all of Russia), and their combined worth amounts to USD 217.6 billion.

The Moscow agglomeration is one of the most dynamically developing regions. SmartLoc specialists created geo-information models which allow the level of “population” and “development” of a given territory to be estimated. With this tool, it is possible to analyze the size of the Moscow agglomeration and foresee the direction of its development.

The first map illustrates the concentration and density of the resident population. The second map presents the type of population distribution, i.e. the height of residential buildings.

18. Map illustrating the concentration and population density of the Moscow agglomeration inhabitants


It is evident at once that the majority of the population of the Moscow Oblast is located between the Moscow Automobile Ring Road (Московская кольцевая автомобильная дорога, MKAD) and the Moscow Small Ring (Малая бетонка, Road A107) in a 50-km radius. The maps clearly represent the concentration of the population along the main highways and railway lines, and the “belts” of cities appearing at equal distances from Moscow.
The western part of the Moscow agglomeration is densely built up, like in Germany – the territory is entirely covered by residential communities of suburban type-houses. In the east there still are many empty areas and a large number of cities with compact, high-rise apartment buildings.

A logical question arises: what are the limits of Greater Moscow’s growth?

Demographers maintain that the Moscow agglomeration has absorbed human resources of the neighboring oblasts within a 500-km radius. Power engineers have noted that at peak time Moscow draws electricity not only from the Central District but also from the Volga and Ural Districts. Ecologists raise alarm that the Upper Volga, which is a source of potable water for the giant metropolis, is becoming shallower. The problem of recycling and garbage removal from Moscow to other regions is intensifying; a typical example can be the recent unrest connected with the

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construction of a garbage dumpsite for Moscow in the village of Shies in the Archangel Oblast.

All the above suggests that the capital of Russia, where 80% of all cash flow in the country concentrates and which since the collapse of the USSR has been developing like a pyramid scheme, will soon be reaching a turning point. The inhabitants of other regions of Russia express increasingly negative attitudes towards Moscow – a phenomenon particularly visible among the citizens of other cities with population of over one million, which want to become new points of growth in Russia.

According to the latest study by the Strelka KB’s Center for Urban Economy (Центр городской экономики КБ Стрелка), other Russian megalopolises would need approximately 100 years at the current pace of development to catch up with Moscow. In reality, the Moscow agglomeration has transformed into a separate state within a state, or a form of a colonial metropolis living off the rest of Russia.

REGIONS OF RUSSIA: SUMMARY AND CONCLUSIONS

In the article the author has attempted to look from a broad perspective at the current state of Russia’s regions, focusing in particular on the dramatic changes that took place after the collapse of the USSR.

To achieve this objective, we needed to look at what is happening in the state from different levels: from the Earth’s orbit and through the eyes of a resident of a single large city. To obtain an objective representation, state-of-the-art methods were used – satellite photos, macroeconomic analyses, and studies of big data obtained from mobile phone operators. All this together paints a remarkable picture of the unfolding fragmentation of what was once the socially uniform area of the Soviet state.

An inevitable question immediately arises: how this mottled patchwork of heterogeneous regions exists together within one vast state, known today as the Russian Federation.

There are two main approaches to this matter: irrational and rational.

The smartest answer of the first type came from the lips of the commander-in-chief of the Russian army during the reign of Tsarina Anna Ivanovna, Field Marshall Christoffer Münnich. As a German who had faithfully served Russia for a long time, he tried to understand how everything worked there, but to no avail. Towards the end of his life, he reached a paradoxical conclusion: “Russia is a state ruled directly by Our Lord. Otherwise it is a mystery how it still functions”. One could also here recall the words of Hannah Arendt: “A state, like a family, exists as long as there is the will to live together”.

The author of this article attempted to give a rational answer in his work CIS: Twenty Years After the Divorce (СНГ: Двадцать лет после развода), which identified

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three main reasons why the citizens of Russia – and from a broader point of view, also of the former Soviet states – are interested in coexistence.\textsuperscript{16}

The first is the common infrastructure. Its backbone is the mighty structure of the all-Union fuel and energy complex, the so-called “pipe society” (общность Трубь).\textsuperscript{16}

In reality, “the Pipe” has become the most important mechanism of integration in post-Soviet space. In Russia, transport infrastructure is fundamental – let us recall the Trans-Siberian Railway looking from space like a golden thread connecting European Russia with Siberia and the Far East.

The second reason is a brotherhood-in-arms, the military-political community of the Soviet system of military services (particularly the air defense system) and uniform military standards.

There are two sides to such a communality of power. The positive one is the guarantee of integrity, security, and protection against internal threats (the case of Yugoslavia’s bloody disintegration and the attack of NATO air forces on Belgrade still remain vivid in Russians’ minds). The negative one is a demonstration of power against potential separatists (the example of Chechnya proved to Tatarstan and Siberia that secession can turn the region back to the Stone Age).

The third reason is the communality of language and culture, created in the Soviet era. It was reflected in the leading role of the Russian language, as well as in unified educational, cultural, mental, and governance patterns. Furthermore, with the amassed variety of cultural, scientific, and educational texts, Russian is a language of global importance.

Many researchers of regional processes, such as the sociologist Simon Kordonskiy, propose their own unification triad. Thus, Kordonskiy is of the opinion that “Russia is united by language, ruble, and television”.\textsuperscript{17}

The importance of the language factor has been discussed above. The ruble factor means firstly, the domination of the ruble zone in all of Russia, and secondly, the current political practice of the Kremlin aimed at taking over all the financial resources of the regions and their subsequent redistribution in exchange for loyalty. Through news and political programs, television provides a unified narrative for the vast state, while series disseminate typical models of behavior among the multi-ethnic population.

However, if one looks closely at the changes that have recently taken place in Russia, it is easy to notice that all the basic ties have eroded.

The objective reasons are as follows:

The main one, the unavoidable change of generations, concerns not only the post-Soviet Muslim states with high birth rate but also Russia itself, where almost half of the citizens were born after 1991. This means that a new generation is entering the political and economic scene – a generation that has not experienced the Soviet Union. For them,


the national and regional development is more important than the Soviet past. The gap in the common information / cultural space is widening due to different languages, educational differences, fragmentation of the audiences, and the victory of the Internet over television. The process of national and cultural renaissance of small nations, growth of interest in their history and identity has started. There is growing dissatisfaction with huge social disparities and the existing imbalances in the regions’ development.

The second reason is that Russian regions are gradually joining different economic zones of the contemporary world. Thus, the European regions gravitate more and more towards the successful European Union. Siberia is oriented towards China, the Far East – towards the states of South-East Asia, and the North Caucasus has more in common with the Muslim world of the Middle East.

Different parts of this vast state have been becoming gradually divergent in terms of foreign economic relations, and a possible scenario is that they may actually join different international associations. These processes are already creating large gaps, with regard both to the standard of life of the regions and to the changing political culture and custom-related practices – the western half of Russia and large cities follow the European way, the Caucasus republics – the norms of Adat and Sharia, and everyday life in the Far-Eastern border zone is quickly becoming Sinicized.

In my opinion, the key role in the coming transformation of Russian regions will be played by global ties, new infrastructure routes, and emerging macroregions (including the possible creation of Eurasian regions in the areas bordering Kazakhstan and Belarus). The experiences of the Baltic states and the former members of the Comecon which joined the European Union points out that accelerated infrastructure development and utilization of the benefits of globalization are the key to the successful development of Euroregions.

The main conclusion of this work is that it is time to begin a wide-scale campaign for a systematic study of Russian regions, with research starting from a blank slate. It is no longer possible to use the outdated knowledge of Russia perceived as a new edition of the Russian Empire or the largest piece of a broken mug with “USSR” printed on the side. It is commonly accepted that “the contemporary Russia is a poorly developed empire”\(^\text{18}\); however, this is merely a glimpse of the deeper processes occurring on the territory of Eurasia\(^\text{19}\).

We must look further; now it is necessary to investigate and classify the large-scale changes in the political system, economy, and society that have taken place over the last 30 years, both in Russia itself as well as in the post-Soviet and former Comecon states, within the framework of a large comparative research program\(^\text{20}\).

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\(^{18}\) Е.Т. Гайдар, Гибель империи. Уроки для современной России, Москва 2006.


What can this new basic knowledge change? There can be many outcomes, some of them rather unobvious:

1. Changes in foreign policy – infusing it with more pragmatism, rationality, and understanding of actual needs – both of one’s own country as well as its neighbors and partners.
2. Change of internal political rhetoric – into one with much less fake news and false stereotypes. The representation of neighbors’ life will be closer to reality, yet it is difficult to foresee the changes it will introduce in the group consciousness as well as their vector (positive or negative).
3. Changes in internal policy – introducing new approaches in this sphere. It is known that foreign policy moves or constructing the image of a foreign enemy are frequently used to justify or obscure current difficulties, leaders’ incompetence, and unpopular reforms.
4. Analysis and the popularization of best practices – in the neighboring countries one can often find good, well-tested practices that can quickly be implemented at home, without repeating neighbors’ mistakes.
5. Analysis and prevention of the worst practices – based on the sad fate of the neighbors, one may learn how not to step on a rake.
6. Changes in economic cooperation – one can find efficient new fields for cooperation and stop old, disadvantageous interactions.
7. Change in the development of integration structures – the work of the integration structures of the EU and EAEU can be adapted to improve their efficiency and mutual complementarity.
8. The development of new guidelines regarding the flow of human capital – if people understand differences in standards of life between the specific states of the former USSR, it may lead to increased migration, or even to an active fight for human capital.

Objective knowledge regarding the countries of the former USSR and the Soviet bloc – which had approximately the same starting point but now belong to different worlds – will devalue many accumulated false judgments and post-Soviet myths. As a result, a new political language will emerge, based on the new knowledge.

In my opinion, there are too many historians today in the circles of power in Russia and other countries. They call us to go forward yet with our heads turned back – and this is a dangerous situation in which we will be condemned to continuously replay historical plots invented by Stalin and other figures from his era. The new, post-Soviet generation should be given a clear vision of the world, without political myths, and presented with bright perspectives for future development.
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