THE COMPETITIVENESS OF RURAL AREAS IN THE REPUBLIC OF TATARSTAN

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Abstract: This paper analyses the main factors influencing the regional competitiveness of rural areas in the Tatarstan Republic. Firstly, 19 variables related to the socio-economic situation in the Tatarstan Republic were analysed, these having been taken from the Statistics Committee of the Tatarstan Republic. Principal component analysis (PCA) was then used to determine the weights of 10 indicators that have an effect on the level of regional competitiveness. Factor weights are used as weights in the summation of the standardised scores of variables that have an impact on competitiveness. The major factors influencing the level of regional competitiveness are the level of economically active population, investment in housing and the level of education. The following results were obtained: one of the 44 regions is very highly competitive and two are highly competitive; two of 44 regions have a medium level of competitiveness and 39 regions have a low level of competitiveness.

Key words: regional competitiveness, rural development, agrarian areas, Tatarstan Republic

1. Introduction

For both political and economic reasons, and due to rapid technological growth, the current situation of global change requires new approaches to social and economic development, both for the whole international community and for individual states. This issue has now become a political priority, especially for Russia. Success in Russia's foreign policy will be linked to the level of economic development as well as the efficiency of economic relations with foreign countries. As competitive regions can be considered a factor in economic growth, the development of regional competitiveness will play an important role in Russia's relations with international organisations such as the World Trade Organisation (WTO), the Organisation for Economic Cooperation and Development (OECD) and others.

Nowadays, the issue of regional competitiveness is still poorly studied in Russia, among other reasons because it is often equated with effectiveness. (However, this is not the right approach, because although the former is based on the latter, regional competitiveness also includes a number of variables characterising both the external and internal environment.)[1] In Russia, rural areas cover two thirds of the territory and are home to 27% of Russian population. The question of rural development represents one of the main problems for the Russian Federation, and therefore receives great attention from the government. Within this issue, the improvement of the competitiveness of the Tatarstan Republic ihas long been one of the most pressing problems, and the scientific community is therefore called upon to determine the level of competitiveness at a sub-regional level and to understand the factors affecting it.. Consistent and effective policies which promote a high level of competitiveness are desirable, in order to give rural regions an opportunity to enhance their economic growth, providing them with a worthy place in the federal structure. Thus, it is necessary to consider the currently existing methods and techniques for the assessment of regional competitiveness.

The measure of competitiveness which is presented here is related to the potential and innovativeness of the region rather than to its actual economic performance. The study therefore offers a representation of regional competitiveness which differs greatly to the general perception of business competitiveness.

To increase the competitiveness of an individual region, the factors affecting competitiveness must first be determined. The competitiveness of a region is defined by its geographical position, as well as the level of social development (the number of urban residents, the level of education) and economic indicators (wages, investments, labour force, etc.). An analysis of the aforementioned indicators will identify the most competitive regions, thus making it possible to determine the most competitive region and the reasons for this. Further analysis will uncover which factors influence competitiveness. Using this data we can conclude how to manage these factors most effectively in order to improve the competitiveness of individual regions.

The aim of this paper is to analyse the competitiveness level of Tatarstan's sub-regions and to clarify the principles of assessing regional competitiveness. This paper consists of 4 remaining sections. Section 2 is devoted to theoretical issues, examining how experts and Russian scientists in

particular determine regional competitiveness. In section 3, we introduce the various statistical data which will be used for the measurement of regional competitiveness in this paper. Section 4 presents the results of the study, these being discussed in section 5 before conclusions are drawn.

2. Theoretical orientation

The problem of competitiveness has been the concern of many Russian scientists, such as Shekhovtseva (2001), Ushvitsky (2005), Danilov (2007) and others. These researchers have first tried to define the concept of competitiveness before determining the competitiveness of a region.

The most common concept of competitiveness used in the scientific community is the definition of Porter, one of the first scientists in this field. His definition describes competitiveness as "a property of goods (services), the subject of market relations acting in the market with the similar products, services or competing entities of market relations" (Porter, 2000, p. 21). Noticeably, the definition only describes goods. According to Shekhovtseva's definition, competitiveness is the ability to perform functions with the required quality and cost in a competitive market (Shekhovtseva, 2001). Of great importance is the fact that it is impossible to compare the competitiveness of a region with the competitiveness of firms. First, if firms are non-competitive and do not hold a strong position in the market they go bankrupt, whilst a region does not cease to exist if it is not in a leading position. Secondly, a region creates favourable conditions for the neighbouring regions when it becomes competitive, thus giving those new opportunities for development. In the case of an enterprise, the success of one player generally results in a less successful outcome for the others. Thirdly, the success of a region is measured by the creation of new jobs and an increase in both quantitative and qualitative employment.

Ushvitsky and Parakhina define competitiveness as "the ability to provide a high standard of living and income to the population, as well as the efficient use of available economic capacity in the region in the production of goods and services" (Ushvitsky and Parakhina, 2005, p. 1), and this is echoed by Danilov (2007). In this case, the definition should include the following three fundamental aspects:

a) standard of living must be brought to a higher level;
b) functioning of the regional economic mechanism should be effective;
c) the region should be attractive to investors.

Thus, we can make a comparative analysis of currently existing definitions of regional competitiveness. Definitions usually include the following elements:

- a high quality of life;
- the implementation of the economic potential of the region;
- the ability to create and ensure the investment attractiveness of the region;
- the creation of conditions in the region which help to maintain a competitive advantage in all areas;
- the production of competitive goods and services;
- the achievement of a high gross regional product (GRP) per capita.

According to Porter's research, the development of regional competitiveness can be seen as developing in four stages. The first stage assumes a competition based on factors of production. This includes the natural resources of the area, favourable conditions for production and sales of manufactured products, and a skilled workforce. At the second level, competition is based on investments. These can be investments in technology and education, as well as in providing various kinds of licenses. This is followed by the third stage, namely competition based on innovation, which could include the creation of new products, new services, processes or organisational decisions. Finally, the last stage of competition The first three levels can stimulate economic growth, but without sufficient capital stage there may be stagnation and decline (Shekhovtseva, 2001).

Various ways of measuring competitiveness can be found. Buckley et al. suggest the following methods:

1. Measures of performance. Among the most common of these are calculated indicators of profitability, market share growth, balance of trade; you can also select an/ the index of comparative advantage (RCA - Revealed Comparative Advantage);
2. Measures of competitive potential. These show the accessibility of cheap raw materials and emerging technologies;
3. Measures of the competitive process. These indicators often measure the qualitative side, and can be compared with the assessment of the management process. Their primary task is to translate the competitive potential of competitive achievement. (Buckley et al., 1988).

The World Bank proposes its own methodology to assess the well-being of the region, identifying four main indicators which are calculated per capita, namely the size of the gross regional product, the amount of productive resources, the value of natural resources, and the value of human resources (Shekhovtseva, 2001).

Regional competitiveness has also been studied in other parts of Europe (Annoni, 2010). For these purposes, the following indicators are usually used: economic performance, the employment and labour market, indicators relating to education, research and innovation, telecommunication networks, transport and internationalisation. Thus, the economic indicators include those such as the value of the gross domestic product per capita in purchasing power standards. It is necessary to carry out a comparative analysis of the dynamics of this indicator for a more detailed examination thereof, as well as a detailed study of its various branches. It is advisable to study it in terms of at least three main sectors: agriculture, forestry and fisheries, industries and the service sector. The group labour market and employment includes the following indicators: the employment rate (the ratio of working population aged 15 to 64 years among the general population in this age group), the unemployment rate (the number of unemployed people within the active population),

long-term unemployment (the number of people unemployed for longer than 12 months) and the average number of hours worked per week. The main indicator in the next group is the percentage of people with higher education. This category includes the proportion of the population whose level of education corresponds to levels 5 and 6 according to the ISCED classification. Innovation Group is characterised by the number of patent applications that are submitted to the European Patent Office (EPO). It is believed that this figure may reveal the dynamics of the research sector. However, it should be noted that the newest EU members are dissatisfied with this definition, because most of them have adopted the tradition of filing patents in a given society, and thus consider this approach unfair. If possible, a budget for research and development as a percentage of GDP and the population engaged in R & D should be estimated. The indicator of the availability of internet access in private households and organisations is chosen as the main indicator for the next group. The category of transport will be judged in terms of the following parameters:

- length of the motorway network with the calculation of length density per million inhabitants;
- transportation by air, with a calculation of amount of goods loaded and unloaded;
- sea freight, with a calculation of the amount of goods loaded and unloaded.

Some difficulties arise when assessing the latter group because data is lacking at the regional level, so this can be evaluated only at the level of the country. For this purpose, the following indicators are used:

- exports and imports by product types and towards the population;
- average annual growth rate of exports / imports;
- incoming foreign direct investment in both absolute value and percentage of GDP;
- the average incoming and outgoing flows of foreign direct investment relative to GDP.

There are however different concepts and criteria for the evaluation of regional competitiveness across countries. For example, the concept of competitiveness in the UK concerns the stability and development of the business environment and the economic well-being of citizens. Competitiveness is defined as the ability of the economy to attract and retain companies with stable development and growth of living standards. Competitiveness of the region is seen as the result of a complex interaction of three main groups of indicators: production factors, output factors and the resultant factors.

There is another definition of competitiveness in Croatia, namely as "a range of factors, policies and institutions which determine the level of productivity" (Annoni & Kozovska, 2010, p. 23). Before determining competitiveness, indicators must be selected, these being characterised primarily by two major economic areas of this country - the business environment and the quality of the business sector. 135 indicators were selected for the analysis, which are combined into eight groups. To assess the business environment the following data were selected: indicators of demography, health and culture;

- data on education;
- basic infrastructure and public sector;
- infrastructure business.

The following data were selected to assess the business sector directly:

- investments and trends in entrepreneurship;
- level of development of entrepreneurship;
- economic performance, reflecting the real situation;
- economic performance, reflecting the trends and patterns.

Quantitative analysis is based on the methodology IMD (intermodulation distortion) according to which more than 100 indicators are needed in order to calculate sub-indices. These sub-indices are then used to calculate the two main indices. Competitiveness is calculated as a weighted average of the two sub-indices. Different weights are given to the business environment and quality of the business sector. The weights are calculated on the basis of the World Economic Forum. Finally, the overall regional competitiveness index is calculated as the average after standardisation (Annoni & Kozovska, 2010).

For Finland, the definition of regional competitiveness is yet another: the ability to favour regions to attract and support economic activity so that its citizens have a relatively good economic health.

Shekhovtseva and Danilov both recognise that despite the presence of well-established international research on issues of competitiveness at national level, some of the indicators used become unavailable or meaningless at the regional level (Shekhovtseva, 2001; Danilov, 2007). For example, indicators reflecting the efficiency of the public sector or barriers to trade do not change within a country, and thus are considered inappropriate for regional comparisons, especially when examining only one country.

In the case of Finland, the index is calculated using available indicators on the labour market, as well as indicators that show innovation and agglomeration areas. Four groups of indicators of competitiveness were identified:

1. human capital;
2. innovation;
3. agglomeration;
4. availability.

These four main aspects describe 16 variables for 85 Finnish sub-regions.

It is interesting to note that any indicator associated with the sphere of the economy has not been included for the calculation of the index. In fact, economic performance and welfare, such as GDP per capita and personal income, were included later in the study of correlation between them and the index of competitiveness. The relationship between the index and short-term output indicators, which include changes in production, employment and population, were also evaluated.

Human capital is measured by five variables: the number of people with higher education, the total number of students, the number of students of technical specialities, the size

of the population of working age (15 to 64 years), and the participation rate in the labour market.

Group "innovation" captures four variables: the average number of patents between 1995 and 1999, spending on R & D, the share of enterprises that were innovative in the years 1985–1998, and the share of value added produced in the field of high technologies.

Agglomeration of firms and economic activity is described by four parameters: population density, the proportion of workers employed in sectors where external economies are large (manufacturing, wholesale trade, retail trade and private services), the proportion of workers employed in business services, and the size of the largest sector in the sub-region.

The three variables for accessibility reflect the following information: the distance from one sub-region to another, calculated from the size of the sub-region, the distance to the airport, as measured by the size of airports, and the share of firms in the sub-region involved in foreign trade. It should be noted that the availability of rail transport was not considered because of the unavailability of data at the sub-regional level, and also because of the dominant role of road and air transport for trade in goods [Annoni, 2010].

3. Data and method

Tatarstan Republic is part of the Volga Federal district which includes Kazan and 43 regions. It covers 0.4 % of the territory of Russia and 2.6% of the Russian population (3.803 million people) live there. The GDP of the Tatarstan Republic is about 1250 billion rubles, which is 2.3% of the Russian total.

The Republic of Tatarstan is one of the Agricultural leaders in the Russian Federation as well as in the Volga federal District.[2] The Republic takes a leading place in the production of basic plant products (first place in the gross harvest of potatoes, fourth place in the gross harvest of sugar beet) and livestock (the second largest producer of milk, the third largest producer of livestock and poultry).

As of the 1st of January 2012, the population of the Tatarstan Republic was around 3.8 million, around 2.9 million of whom live in urban areas while only 24.3% live in rural areas, despite some regions not having an urban population, including Aktanyshsky, Alkeyevsky, Verkhneuslonsky, Vysokogorsky, Drozhzhanovsky and others.

Each region has its specific, unique characteristics which determine the competitiveness of the region. Competitive advantages of the region are defined by differences, not similarities. The region becomes competitive if adaptation of the industrial structure to market methods of farming occurs more rapidly, when the authorities support core companies, and a sensible economic policy is carried out. The competitiveness of the region is not a short-term phenomenon. Conditions must be created which are stable and will have a lasting impact. In these conditions it is necessary to take care of the population as the competitive economy requires employment and reduction of unemployment. In summary, all actions should lead to the increase in real income and standard of living.

We have chosen 19 indicators which demonstrate the social and economic situation in the Tatarstan Republic. Indicators of socio-economic development were provided from the State Statistics Committee of the Tatarstan Republic in the year 2010:

- revenue from 1 ha of arable, thousands of rub.;
- total number of population, people;
- average total working-age population;
- total wages, millions of rub.;
- the average monthly wage, rub.;
- financial results for all enterprises and organisations, millions of rub.;
- private investments, thousands of rub.;
- size of private investments for housing, thousands of rub.;
- motor roads, km;
- the number of housing commissioned, m^2;
- whole volume of agricultural products, millions of rub.;
- area of district, km^2;
- the total urban population, people;
- the number of residents with higher education, people;
- the number of residents with secondary professional education, people;
- the number of residents with initial professional education, people;
- the number of residents with only primary education, people;
- increase of population, people;
- average monthly wages in agricultural sector, rub..)[3]

In accordance with the purpose of the study, we employed the method of principal component analysis. According to this method, 19 indicators of socio-economic development in the Republic of Tatarstan were selected. This method permits a reduction of the dimension of data where the least amount of information is lost. As a result, we selected 10 indicators which have a greater impact on the competitiveness of the region.

After this, we standardised the data which had the largest impact on regional competitiveness. Standardisation was achieved by assigning the value one to the highest value of a variable in a certain region and subsequently computing ratios for the other 43 regions. For this purpose we used the following formula:

$$y_{ij} = \frac{x_i - MIN\ x_1, x_2, x_3, \ldots x_n}{MAX\ x_1, x_2, x_3, \ldots x_n - MIN\ x_1, x_2, x_3, \ldots x_n} \quad (1)$$

where

y_{ij} – computed variable for i indicator and j region;
x_i – indicator;
n – number of indicators.

The next step was the multiplication of the data after standardisation with data weights obtained by PCA and summation. Eventually, the index of regional competitiveness was calculated using formula (1) for standardisation.

4. Results

This component is the regional competitiveness, which explains about 91 per cent of the total variance. The 10 variables mentioned in Table 1 have high loadings (weights) on the component which can be clearly labelled as competitiveness. Consequently, we continue to use these indicators in our analysis.

Many factors influence the formation of competitiveness. Conventionally, they can be divided into basic and providing factors. Under basic features, those features can be understood which the region has possessed for a long period of time. These, for example, can include natural resources, human capital (level of education), and the utilisation of scientific and technological progress. Providing features can be understood as a system of management in the region, a process formed and implemented by economic mechanisms. These components include economic, political and social characteristics. The institutional component of competitiveness can also refer to providing factors. This feature is essential for the ordering of relations between economic entities in the region, and promotes the efficient use of the basic components of competitiveness. Infrastructure plays an important role in the region, as it enables the region to turn their potential into real competitive advantage.

The most important variables are the ones related to population, motor roads, housing and level of education

Table 1. Weights of selected variables

The name of selected variables	Component of competitiveness
1. Population with higher education, people	0.992
2. Population with great school education, people	0.975
3. Total population, people	0.973
4. Economically active population , people	0.972
5. Size of private investments in housing, thousand rub.	0.969
6. The number of urban population, people	0.969
7. The number of housing commissioned, sq. m	0.968
8. Population with secondary professional education, people	0.958
9. Population with initial professional education, people	0.952
10. Motor roads, km	0.813

Source: own calculations.

The importance of the role of infrastructure for transport is recognised all over the world, and in an increasingly interconnected world, the transportation system increases in relevance. Entrepreneurs need to ensure reliable access to other economic entities when they conduct any activity businesses, as well as bearing in mind the cost of transport. This can be very high, highlighting the importance of developing a high-quality regional transportation system.

Human capital is also crucial given that people affect all of the processes occurring in the region, and make decisions which will later have a direct impact on regional competitiveness, bringing about progress which they would enjoy themselves. Therefore, we believe that it is essential to manage indicators such as education, and the training of qualified staff and management. On the one hand, it seems impossible to influence some of the indicators in the short term (this can be attributed to demographics), while on the other hand, there are many factors that can and should be managed. For example, the Republic of Tatarstan carries out many competitions to support talented young people. Successful young people begin to participate in projects such as personnel reserve, thus forming qualified management. Another example is the project "Algarysh", through which hundreds of graduate students and young scientists can study in foreign countries, accumulating useful experiences for future activities as a result.

Housing also has a great impact on regional competitiveness, being one of the most serious issues in Russia as a whole as well as in the Tatarstan Republic specifically. Many young people have to wait for a long time before they can afford to buy their own accommodation, often delaying marriage and having children for this reason. Some indicators can thus be improved if the government and local authorities pay more attention to this problem. Some federal programs are directed to provide the population with affordable housing but it is deficient, especially in rural areas.

The levels of competitiveness were established using a deterministic method for pattern recognition based on existing data. We determined levels of competitiveness for every region of the Tatarstan Republic and divided the areas of analysis into four groups according to the degree of competitiveness: from 0 – up to 0.1 – less competitive (areas with a low level of competitiveness), from 0.1 – to 0.2 – competitive areas (areas with a medium level of competitiveness), from 0.2 – to 0.3 – more competitive areas (areas with a high level of competitiveness), and from 0.3 – to 1.0 – markets leaders (districts with a very high level of competitiveness).

Table 2 shows a regional competitiveness index of the first ten regions in the Tatarstan Republic that have higher values for this indicator.

The final results can be found in Figure 2.

Table 2. Regional competitiveness index for Tatarstan Republic

Name of region	Competitiveness index
Kazan	1.000
Tukaevsky	0.264
Nizhnekamsky	0.211
Zelenodolsky	0.148
Almetyevsky	0.136
Bugulminisky	0.065
Leninogorsky	0.062
Yelabuzhsky	0.057
Arsky	0.049
Nurlatsky	0.049

Source: own calculations.

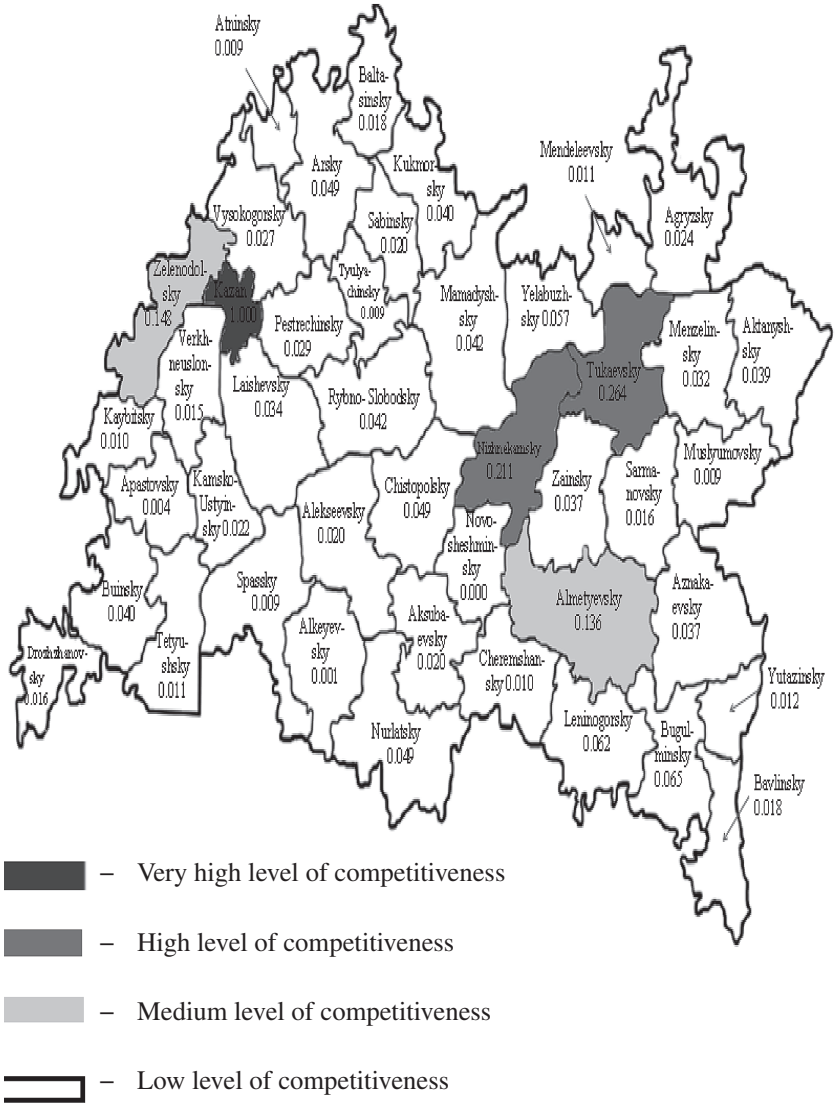

Figure 2. Ranking of districts of the Tatarstan Republic by level of competitiveness

It can thus be seen that there is one region in the Tatarstan Republic which earns the label market leader, namely Kazan. This can be explained by the fact that Kazan is the centre of the Republic. It has the highest proportion of investments, construction of housing, and level of education. Many people wish to move there from rural areas, as they can find better facilities for living, study, leisure and so on.

Two regions, Tukaevsky and Nizhnekamsky, have a high level of competitiveness. Two large towns are situated in these districts, these being Naberezhnye Chelny and Nizhnekamsk. These have better living conditions and therefore attract a higher population. Two regions are of a medium level of competitiveness, namely Zelenodolsky and Almetyevsky regions. These two regions have good positions in terms of many indicators and a convenient location near the leading regions. These districts produce various agricultural goods, as well as having various other industries and mineral deposits. The remaining 39 regions have a low level of competitiveness.

5. Conclusion and discussion

This study was conducted in order to identify the competitiveness of the various regions of the Tatarstan Republic as well the factors affecting their competitiveness. The results highlight various problems in the Tatarstan Republic. Only one region can be identified as a market leader, while two are highly competitive and two have a medium level of competitiveness. The others (39 of 44 regions) are associated with lower socio-economic conditions. The results suggest that the government and especially local authorities should pay more attention to the development not only of large districts and industrial complexes, but also to sub-regions and agriculture.

A great number of different conditions influence regional competitiveness, both objective and subjective. The economic situation in the country also affects the level of competitiveness. It is also necessary to pay attention to the specifics of individual industries and facilities that are located in the region. The economic independence of economic entities of the Russian Federation determines the financial and economic situation in the region. The region should have socio-economic, scientific, technological and human resources which can develop steadily. This makes the region more attractive as it hosts a greater number of economic activities. which in turn creates new jobs. The more employment, the higher the socio-economic well-being of the population and better the financial status of the budget of the region, these being the most important indicators for regional competitiveness. The research showed that the most influencing variables are housing, transport infrastructure and education. People in the Republic of Tatarstan, as in the Russian Federation as a whole, have difficulties in purchasing accommodation. Roads should also be improved because of their direct impact on different branches of the economy.

The results of our study show that there is a big difference between the capital of Tatarstan, Kazan, and other regions. Kazan is called the third capital of Russia, and it is at present one of the industrial and cultural cities of Russia. It has a variety of types of infrastructure, including business, social, cultural and entertainment infrastructure. All of this creates many jobs, leading to many people from the surrounding regions aspiring to move to Kazan.

There are two leading industries in Tatarstan, these being the oil industry and agriculture. Naturally, the oil industry is the most profitable and brings in a lot of revenue, as is evident from the results. The second group of competitive regions consists of precisely those regions with a booming oil

industry. In contrast, the farming regions are uncompetitive. This creates a huge imbalance between the regions, especially affecting working conditions and wages, and is the reason why so many people prefer to leave the countryside.

In rural areas, only primary and secondary education is available. Young people therefore have to go to Kazan to become professionals, living here for about five years to participate in higher education. It should be noted that in rural areas, social and entertainment infrastructure are poorly developed, leading to the commonplace desire of young people to stay in the city where it is easier to find a job with the prospect of career growth.

The government is developing programs for the development of rural areas, allocating money to build new schools and kindergartens. New facilities for sports are built in the countryside, but experience shows that this is insufficient. One of the current priorities of the government, in our opinion, is to attract young people back to rural areas. Wages must be increased and new homes built in order to attract young people. If some universities in Kazan set up outposts of training centres and student towns in the countryside, containing research centres and laboratories, new jobs would be created for local residents as well as for scientists. Offering opportunities for education in rural areas might reduce the influx of people to Kazan, thus bridging the gap between Kazan and other regions.

Another important point is the development of small businesses in rural areas. Almost all businesses are located in Kazan, and the rural population must travel to Kazan if they want to buy something. This applies to nearly all industries, from clothing to furniture. Even if the shops in rural areas offer some of the products, they are of poor quality or overpriced. If the government allowed small businesses to appear in rural areas and fully supported them, though it would be necessary to monitor the quality of the goods they offer, this would also make rural areas more attractive compared to Kazan. One possible new direction may be the development of online stores, allowing rural residents to buy the necessary goods in the comfort of their own homes. Despite the many advantages of online shopping, including lower prices and the wide range of products, this industry still has a long way to go in terms of development. Another problem in Russia currently, particularly in Tatarstan, is the lack of internet connection in many villages. Although the government is trying to improve this situation, they are prioritising providing schools with internet. Moreover, most old people are unacquainted with the internet or even with computers. Many families have computers but these are usually used by schoolchildren or students. Courses in computer training and the development of the internet are already available in many cities. These courses could be organised in rural areas. Until now, no system of electronic payment has been developed in the Republic. Many people are afraid of such payments because they often hear about hacking scandals, an issue not only in the Russian Federation but also elsewhere. If law enforcement authorities were more vigilant about such crimes, people would be more empowered to use technology, a great levelling factor between rural and urban areas.

Human health also remains an important issue. Today's government makes a lot of effort to develop health infrastructure in rural areas, building various sports facilities and fitness studios. Clean air, environmentally friendly products, and exercise are essential to maintaining good health conditions. With added investment in the quality of life in rural areas as well as social advertising as to its benefits, the influx of people into cities of the Republic may be reduced.

Notes

1. Usually when scientists talk about the region's competitiveness in Russia, they mean the efficiency of the manufacturing industries in the region. This is calculated in terms of profit,*)*. Unfortunately, the methods that we use in this article have not yet developed in Russia).
2. The Russian Federation comprises 83 Federal entities. Federal entities are grouped into eight Federal districts, each administered by an Envoy appointed by the President of Russia.
3. The following information is available from the authors upon request: the administrative division of the Tatarstan Republic; socio-economic data of the Tatarstan Republic; the data matrix after the transformation of each variable that has an impact on competitiveness and a full list of regions and their regional competitiveness index.

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