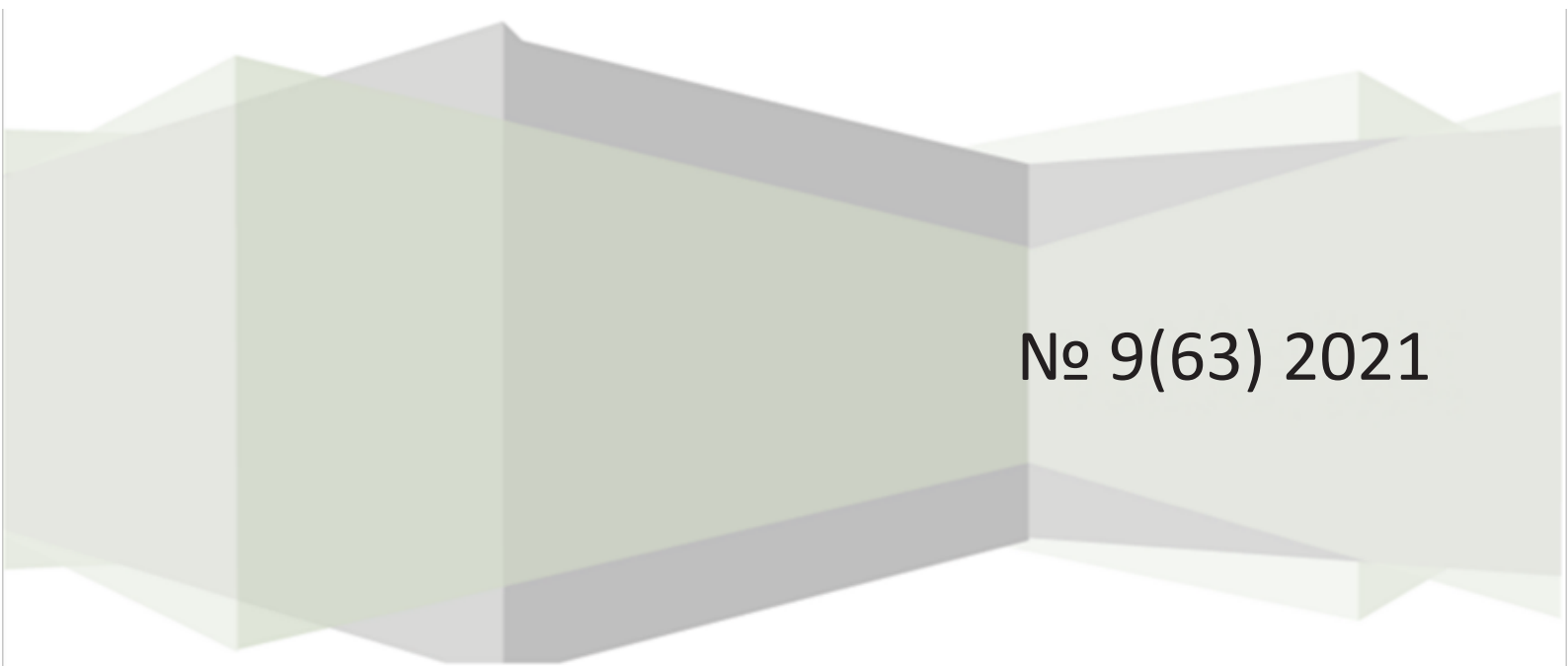


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## Contents

### *Engineering*

- Ildarkhanov R.F., Galiev R.M., Nuretdinov D.I., Shaykhutdinov I.F.** Modern and Promising Road Trains for International Transportation..... 5

### *Economic Sciences*

- Flügel Lidia, Voronkov G.N.** Studying the Dynamics of the Unemployment Rate and Employment of the Population of the Russian Federation..... 9
- Izotov A.O.** Search for Ways to Increase the Efficiency of the Market Economy of the Russian Federation..... 14
- Voronkova O.V.** Economic and Theoretical Problems of Solving the Problem of Poverty in Modern Russia..... 19

### *Demography*

- Slyusarskaya T.V., Khromova A.R.** Formation of Social and Household Skills in Adolescents with Autism Spectrum Disorders..... 22

## Содержание

### *Машиностроение*

- Илдарханов Р.Ф., Галиев Р.М., Нуретдинов Д.И., Шайхутдинов И.Ф.** Современные и перспективные автопоезда для международных перевозок ..... 5

### *Экономические науки*

- Флюгель Лидия, Воронков Г.Н.** Изучение динамики уровня безработицы и занятости населения РФ ..... 9
- Изотов А.О.** Поиск путей роста эффективности рыночной экономики РФ..... 14
- Воронкова О.В.** Экономико-теоретические задачи решения проблемы бедности в современной России..... 19

### *Демография*

- Слюсарская Т.В., Хромова А.Р.** Формирование социально-бытовых навыков у подростков с расстройствами аутистического спектра ..... 22

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## Modern and Promising Road Trains for International Transportation

R.F. Ildarkhanov, R.M. Galiev, D.I. Nuretdinov,  
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**Key words and phrases:** vehicle; competitiveness; international transportation; rolling stock; manufacturers.

**Abstract.** The article presents an overview of vehicles used in international road transport. The share of European rolling stock manufacturers in the Russian market is considered. Modern and promising road trains for international transport are presented. The indicators used to assess the competitiveness of trucks are presented, and recommendations are given to Russian manufacturers.

The vast majority of vehicles used by Russian international carriers are produced by foreign enterprises, the so-called “European Seven”: Volvo (26 %), MAN (17 %), Scania (14 %), Mercedes (14 %), Iveco (6 %), Renault (7 %), DAF (11 %) and others (6 %).

Often, manufacturers of Volvo, Scania and MAN, which account for more than 70 % of the total share of European manufacturers in the Russian market, are united by the name “Big



Fig. 1. Modern semi-trailer road train for international transportation

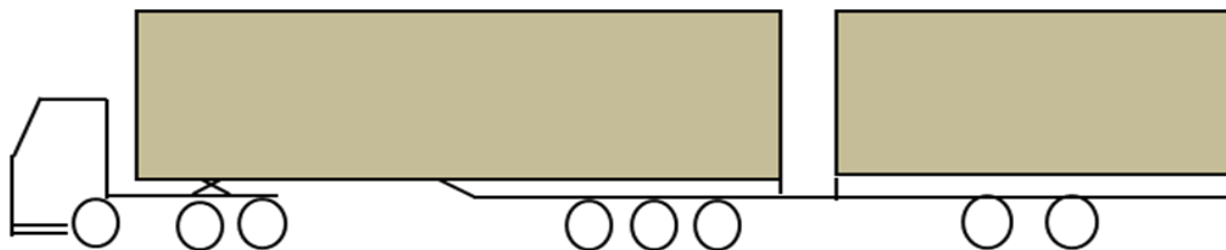


Fig. 2. A promising saddle-trailer road train for international transportation



Fig. 3. Modern trailer road train for international transportation

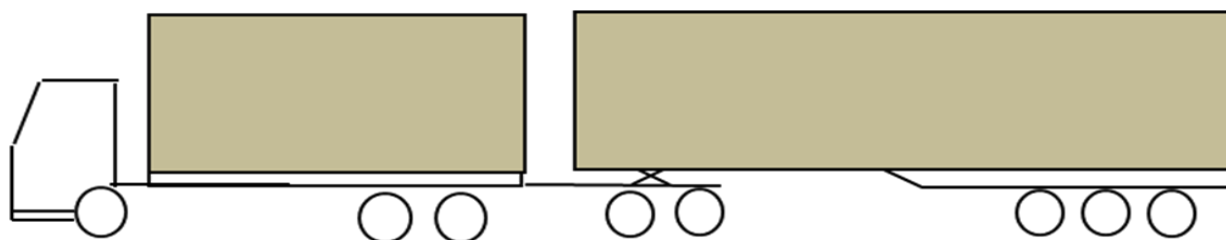


Fig. 4. A promising road train with a heavy-duty long-wheelbase trailer for international transportation

European Three". Russian carriers also have a small number of cars of the American Freightliner Corporation. Cars of the MAZ and KAMAZ brands, as a rule, are used only for transportation to the CIS countries and in the Far Eastern region to ensure foreign trade relations with Chinese enterprises. Figures 1–4 show modern and promising road trains for international transportation.

Foreign car manufacturers have well mastered that the competitiveness of a product is determined by the quality/price indicator, and in relation to trucks, three indicators ("3E") are currently determining: efficiency, environmental friendliness, ergonomics [1–15]. It is the discrepancy between Russian trucks and the "3E" indicator that deprives them of competitiveness.

With the equation of domestic prices and world prices, the strengthening of the ruble, the revival of the economy, and the development of leasing, the active conquest of the Russian market by Western truck manufacturers began. The Russian consumer has long been attracted by the high reliability, efficiency, ease of use of Western cars, and only financial difficulties limit the realization of these desires.



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**Современные и перспективные автопоезда для международных перевозок**

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**Ключевые слова и фразы:** автотранспортное средство; конкурентоспособность; международные перевозки; подвижной состав; производители.

**Аннотация.** В статье представлен обзор транспортных средств, используемых в международных автомобильных перевозках. Рассмотрена доля европейских производителей подвижного состава на рынке России. Представлены современные и перспективные автопоезда для международных перевозок. Приведены показатели, используемые для оценки конкурентоспособности грузовых автомобилей, и даны рекомендации российским производителям.

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UDK 337

## Studying the Dynamics of the Unemployment Rate and Employment of the Population of the Russian Federation

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**Key words and phrases:** dynamics of the unemployment rate; employment of the population of the Russian Federation; structure of unemployment.

**Abstract.** The article presents data on the unemployment rate in different periods in order to study the dynamics of the unemployment rate and employment of the population of the Russian Federation. The following tasks were set and solved: to estimate the unemployment rate in different periods of time; to show the structure of the unemployed population; to identify areas of the greatest risk of unemployment. Statistical and theoretical analysis methods have been used to study the dynamics and structure of unemployment in Russia. In the course of the study, data were obtained on the number and structure of the employed and unemployed population of Russia in different periods of time.

The Russian Federation has not always had a high percentage of unemployed. The maximum unemployment rate was in the 1990s. This was primarily due to the collapse of the Soviet Union. According to the statistics of unemployment in Russia, in 1992, 3.9 % of the total working-age population was unemployed in the Russian Federation. But after 6 years, this indicator increased to 8.9 %. The main cause of unemployment at that time was the restructuring and closure of many state institutions and factories.

The year of 1999 was one of the crisis years for Russia. During this period, the percentage of unemployed among women reached 46.1 % and 53.9 % for men. The main reason for this situation was the large state debt of the Russian Federation and the low cost of raw materials that were imported abroad.

Since 2000, the situation regarding employment has improved slightly. The country gradually recovered after the collapse of the USSR, implemented major projects that began to provide jobs to Russians. In 2000, there were about 20 regions with an unemployment rate below 15 %.

Until 2020, the unemployment rate gradually decreased, but in 2020, the coronavirus pandemic made adjustments. Many businesses were closed, and a large number of people were left without work. According to statistics, at the end of 2020, the working-age population of the Russian Federation amounted to 80,600,000 people, 75,600,000 of whom are economically employed, that is, officially employed. The rest of the population (about 4.32 million people) are



Fig. 1. Unemployment rate in Russia by year

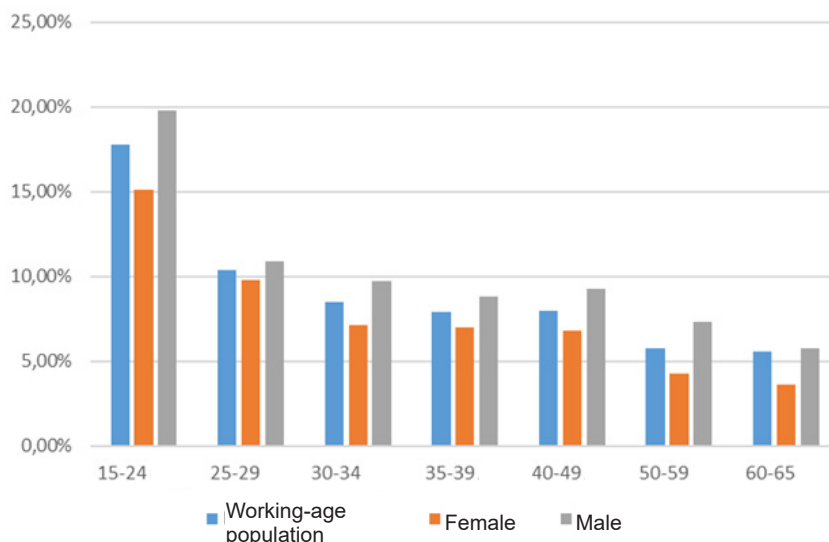


Fig. 2. Dynamics of the unemployment rate by gender and age in Russia in 2020

unemployed.

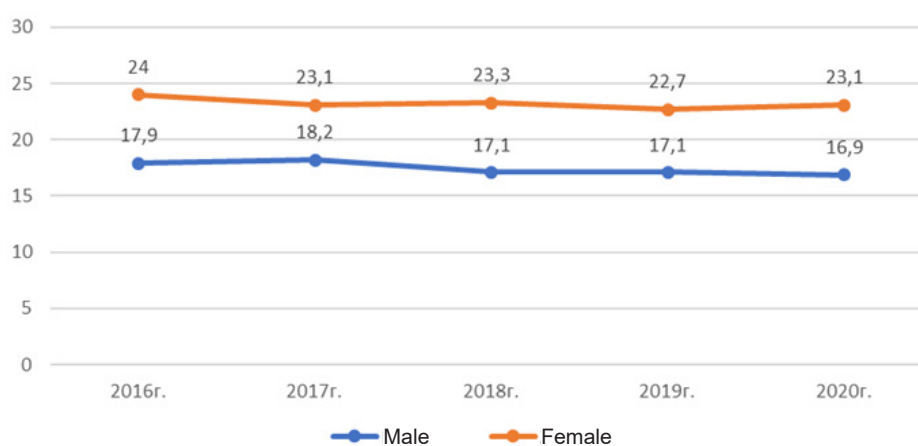
In addition, the authorities have significantly simplified the procedure for obtaining the status of unemployed, so at the end of 2020, the unemployment rate reached 5.9 %.

We analyze the statistics of unemployment in 2020 by gender and age criteria of the able-bodied population (Table 1). From the data in the table, it can be seen that of all population groups, a higher percentage of unemployment exists among young people. It is one of the most vulnerable segments of the population in the labor market, it is more difficult for young people to get a job than for representatives of the adult age category, and in case of economic difficulties in production, young specialists are the first to be reduced.

Examining the unemployment rate, much attention is drawn to the fact that female unemployment is significantly less than male unemployment (Table 1). The main reason for this fact is the great responsibility of women who continue to work despite various difficulties (significant deterioration of working conditions, reduced wages, the occurrence of conflict

**Table 1.** Analysis of the unemployment rate of the population by gender and age in 2020 in Russia (in % of the workforce)

Age group	Working-age population	Female	Male
15–24 y.o.	17.8 %	15.1 %	19.8 %
25–29 y.o.	10.4 %	9.8 %	10.9 %
30–34 y.o.	8.5 %	7.1 %	9.7 %
35–39 y.o.	7.9 %	7.0 %	8.8 %
40–49 y.o.	8.0 %	6.8 %	9.3 %
50–59 y.o.	5.8 %	4.3 %	7.3 %
60–65 y.o.	5.6 %	3.6 %	5.8 %

**Fig. 3.** The number of unemployed with secondary vocational education

situations at work), because they are worried about the material security and the future of their children. And many men, on the contrary, put self-respect in the first place, rather than obligations to loved ones. On the other hand, the explanation of this phenomenon can serve as a greater legislative protection of women.

In all regions of the Russian Federation, there has been an increase in the number of unemployed over the past 2 years, and the coronavirus infection is to blame. The largest increase in indicators occurred in the Southern Federal District: on average, the number of unemployed in this district increased by 8.7 % annually.

Moscow, Yamalo-Nenets and Khanty-Mansi Autonomous Okrugs became the lowest unemployment rate – less than 3.5 %. It is most difficult for residents of Chechnya, Tyva and Ingushetia to find work – in these republics the unemployment rate exceeds 20 %. It should be noted that currently the employment services are not working efficiently and this is indicated by the data in the table.

In relation to 2019, the unemployment rate is only increasing. People are still unable to recover from the crisis caused by the coronavirus infection (COVID-19). Most regions show only negative dynamics in the current situation.

The analysis of the structure of unemployment plays an important role in the development

Table 2. Structure of the unemployed by age group, %

Age, y.o.	2016	2017	2018	2019	2020	2020 by 2016 (+/-)
1	2	3	4	5	6	7
Total	100	100	100	100	100	
15–19	4.7	4.2	3.8	3.9	3.3	–1.4
20–24	19.8	19.1	17.9	18.5	17.6	–2.2
25–29	16.1	16.5	16.4	16.0	16.0	–0.1
30–49	10.3	10.8	10.7	11.1	11.0	–0.7
50–54	10.4	9.8	9.4	8.8	8.8	–1.6
55–59	6.4	6.4	7.4	6.9	6.8	0.4
60–72	2.2	2.4	2.5	2.5	2.2	0
Male						
15–19	4.6	4.5	3.9	3.9	3.3	–1.3
20–24	19.9	19.4	18.5	19.0	18.3	–1.6
25–29	16.0	15.8	15.7	15.8	15.5	–0.5
30–49	10.3	10.8	10.4	11.0	10.7	0.4
50–54	10.4	9.5	9.4	8.9	8.9	–1.5
55–59	7.7	7.9	8.8	8.4	8.5	0.8
60–72	2.0	2.4	2.6	2.4	2.3	0.3
Female						
15–19	4.7	3.9	4.7	3.8	3.3	–1.4
20–24	19.6	18.7	17.2	17.9	16.8	–2.8
25–29	16.3	17.4	17.3	16.2	16.7	0.4
30–49	10.3	10.9	11.1	11.3	11.3	1.0
50–54	10.5	10.3	9.3	8.6	8.7	–1.8
55–59	4.9	4.6	5.8	5.2	4.8	–0.1
60–72	2.3	2.4	2.4	2.6	2.2	–0.1

of an effective employment policy.

The majority of the unemployed have a full secondary education, and in 2017 this figure was the highest – 29.8 %. A smaller share of the unemployed is accounted for by citizens who have primary general education or have no education at all. In 2017, this figure was the minimum – 0.6 %.

If we consider the educational level of unemployment by gender, we can come to the following conclusion: in general, there are no differences in unemployment depending on the level of education, except that the unemployment rate of women with secondary vocational education is higher than the same indicator for men. This can be traced by the following graph:

We look at the structure of the unemployed, depending on age, using the Table 2.

Analyzing the data from Table 2, it can be noted that the bulk of the unemployed in the Russian Federation are people aged 20–24 years, i.e. the youngest and most able-bodied part

of the workforce. This is due to the fact that it is quite difficult for young people who have just graduated from a university or people who have received secondary special education to get a job. In Russia, almost all employers prefer to hire employees with at least 3 years of work experience. The average age of the unemployed ranges from 33.3 to 35.7 years. In addition, a significant number of unemployed belong to the age groups of 25–29 years and 30–49 years. The share of the elderly (55–72 years old) accounts for the smallest number of unemployed.

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### Изучение динамики уровня безработицы и занятости населения РФ

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**Ключевые слова и фразы:** динамика уровня безработицы; занятость населения РФ; структура безработицы.

**Аннотация.** В статье с целью изучения динамики уровня безработицы и занятости населения РФ представлены данные об уровне безработицы в разные периоды. Были поставлены и решены следующие задачи: оценить уровень безработицы в разные периоды времени; показать структуру безработного населения; выделить зоны наибольшего риска незанятости.

Методами статистического и теоретического анализа проведено исследование динамики и структуры безработицы в России.

В ходе проведенного исследования были получены данные о численности и структуре занятого и безработного населения России в разные периоды времени.

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UDK 338

## Search for Ways to Increase the Efficiency of the Market Economy of the Russian Federation

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**Key words and phrases:** ways of development; efficiency growth; market economy of the Russian Federation; main indicators of the Russian economy.

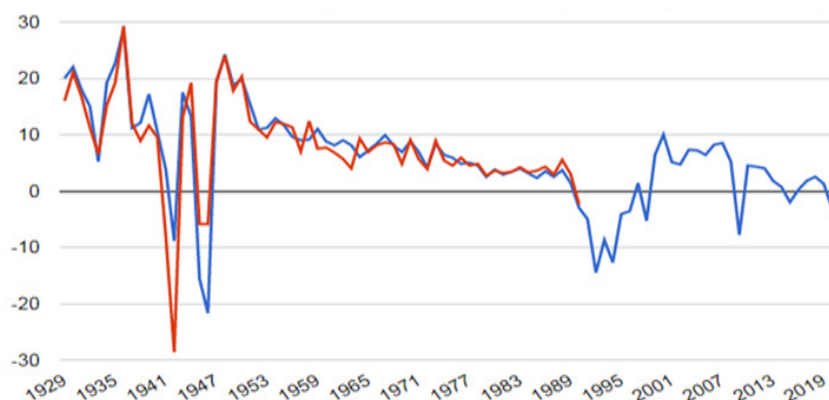
**Abstract.** In order to study the ways of further development and growth of the efficiency of the market economy of the Russian Federation, the article analyzes the main indicators of the Russian economy. Methods such as economic and regulatory analysis, statistical review and forecast were used. As a result of the conducted research, priority directions of Russia's economic activity have been identified.

One of the most important indicators of the country's economy is the volume of GDP. GDP is a macroeconomic indicator reflecting the market value of all final goods and services produced over a certain period in all sectors of the economy for consumption, export and accumulation. It is equal to the sum of consumption, investment, government spending and "net" exports. GDP is calculated as the sum of value added in all sectors of material production and services.

The Russian economy in terms of GDP for 2019 ranked 11th in the world ranking with \$1720 trillion. Russia's GDP growth for 2020 was more than 100 trillion rubles. Below is the data on the GDP of the countries of the world in 2020 (US dollars, thousands):

- 1) USA – 20.93;
- 2) China – 14.72;
- 3) Japan – 5.05;
- 4) Germany – 3.8;
- 5) Great Britain – 2.71;
- 6) India – 2.71;
- 7) France – 2.6;
- 8) Italy – 1.88;
- 9) Canada – 1.64;
- 10) South Korea – 1.63;
- 11) Russia – 1.47;
- 12) Brazil – 1.43;
- 13) Australia – 1.36;
- 14) Spain – 1.28;
- 15) Mexico – 1.08;





**Fig. 1.** Dynamics of Russia's GDP growth

- 16) Indonesia – 1.06;
- 17) Netherlands – 0.909;
- 18) Switzerland – 0.747;
- 19) Turkey – 0.719;
- 20) Saudi Arabia – 0.701.

GDP per capita by countries of the world – 2020 (in thousands of US dollars).

In general, by the end of 2020, the global GDP of the world decreased by 3.3 %.

According to the IMF, if extensive quarantines on the planet are extended, and the coronavirus returns (even with a milder epidemic) in 2021, the overall economic blow will be twice as strong. The Fund's experts believe that the Covid-19 crisis will leave lasting scars in the global economy.

Fig. 1 shows the data to assess the dynamics of the pace of development of the Russian economy over a long period. The annual GDP growth rates allow comparing different countries of the world and making investment decisions on the global market. The countries with the highest GDP growth rates attract much larger volumes of investments. The negative GDP growth indicator at the end of the quarter indicates a slowdown and problems in economic growth. Also, this indicator allows the country's leadership to adjust the policy and strategy of economic development.

For almost 100 years of history, since 1929, the average growth rate of Russia's GDP (until 1991 – the RSFSR) was 6.2 %. The average growth rate of modern Russia from 1991 to 2019 is 0.95 %, the average over the last 20 years (from 1999 to 2019) is 3.82 %. The maximum value of GDP growth per year for all time since 1929 was reached in 1936 and was 28.7 % for the RSFSR and 29.3 % for the USSR. In modern Russia, the maximum annual GDP growth rates were reached in 2000 and amounted to 10 %.

The main helpers in raising GDP will be the sphere of industry, investment and construction. Moreover, the presidential programs on subsidizing the mortgage interest rate for young families with two and three children made not the least contribution. In the field of investment, the main emphasis is on preferential programs for granting loans to small and medium-sized businesses, as well as the creation of a project financing factory. The forecast of Russia's GDP indicates the creation of an infrastructure mortgage, which will have a positive impact on the country's GDP. The creation of such a mechanism will entail the development of infrastructure construction: this situation is beneficial for the state, because direct construction costs will begin to decrease, but

the number of projects will increase.

In 2020, the Russian Federation, like the whole world, faced the global challenge associated with the spread of a new coronavirus infection. Strict quarantine restrictions have led to an unprecedented decline in the global economy. The high level of uncertainty associated with the epidemiological situation has led to the volatility of global commodity and financial markets. The spread of coronavirus infection overlapped with structural changes and problems in the global economy that formed before the pandemic. By 2020, the phase of global economic recovery and rising prices for financial assets has been going on for more than 10 years. At the same time, before the epidemic in many countries, interest rates were at minimum levels, and the expansion of budget support measures took place against the background of a high level of debt burden. The economic development of Russia, as well as the global economy, in 2020 was determined primarily by the epidemiological situation. In general, the Russian economy passed the low point of decline in the spring of 2020 better than expected and better than other large countries where strict quarantine restrictions were imposed. GDP decline in the second quarter of 2020 It was  $-8.0\%$  YoY, a gradual economic recovery began in the third quarter. The relatively successful overcoming of the “low point” was primarily due to a set of anti-crisis measures aimed at maintaining the incomes of the population, maximizing the reduction of current business costs, and maintaining regional budgets. The impact of the epidemic on economic development will remain significant at least in 2021.

The need to implement large-scale programs aimed at combating the spread of coronavirus infection and mitigating the economic consequences of the introduction of restrictive measures required a significant easing of budget policy. In the context of declining revenues in 2020, budget expenditures did not decrease, but increased. The macroeconomic and budgetary stability achieved in previous years has become the most important factor that has provided opportunities for an active anti-crisis policy. The spread of coronavirus infection has objectively diverted the Russian Federation from the development trajectory aimed at achieving the national goals set in 2018. Decree No. 474, on the one hand, ensured continuity, and on the other, clarified and specified the goals, taking into account the new provisions of the Constitution of the Russian Federation, accumulated work experience and a longer-term planning horizon (until 2030). On the horizon of the next decade, we will have to face a number of challenges that form both limitations and new opportunities for development.

National development goals respond to these challenges, and a Single Plan defines specific actions within the framework of such a response. Demographic challenges will be the most important factor of development for the next 10 years. Due to objective demographic trends, the population of the Russian Federation will decrease in the next few years. It is necessary to reverse this trend and ensure population growth by 2030 by stabilizing the birth rate, reducing mortality and ensuring high-quality migration growth.

Taking into account the global trend of declining fertility with increasing prosperity, the stabilization of fertility will require further improvement of infrastructure for families with children. In addition to the traditional infrastructure – kindergartens, schools, medicine - the demand for high-quality leisure and tourist infrastructure, as well as the infrastructure of additional education, development and identification of talents will increase. In Russia, the share of the elderly population will continue to grow, including due to an increase in life expectancy. Accordingly, the need for infrastructure for this generation will expand, both traditional – healthcare and social security, and previously not in demand on such a scale – leisure, educational, tourist. The long-term reduction of the working-age population as a result of objective demographic trends creates new requirements for the labor market, as well as the need for a migration policy

focused on high-quality migration growth and successful socio-cultural adaptation of migrants. The implementation of the Unified Plan will take place in the context of serious structural changes in the world and Russian economy caused by changes in consumer preferences, as well as a new balance between globalization and regionalization of the economy. The “post-bubble” world will turn out to be different, but the nature of such structural changes is currently completely unclear. Accordingly, it is important not so much to predict such changes as to be able to adapt to them effectively. A possible decrease in demand for traditional Russian export goods should be compensated by embedding in new value chains, entering new export commodity and geographical markets, expanding exports of services (medical, educational, tourism). In addition, the most important factor for sustainable growth is a high level of investment activity, the removal of infrastructure restrictions, primarily transport and energy, for the possibilities of flexible and efficient economic development. The uncertainty of the global geopolitical situation also determines the need for the development of import substitution. The global climate agenda and the “carbon tax” also create new requirements for technologies, production organization, and export activities.

A serious challenge for further development is technological. The transition of enterprises and organizations to remote work, the requirements for self-isolation in 2020 led to accelerated digitalization in both the public and private sectors. Digitalization should become a driver for improving the quality of life of every person, a technological breakthrough, an increase in labor productivity in the economy, an increase in the efficiency of the public sector, and ensuring the service nature of the state. In addition to digitalization, it is critically necessary to develop end-to-end technologies, as well as infrastructure support for technological development. Ensuring technological development is a condition for a fundamentally new quality of sustainable economic growth beyond the recovery period. The development of fundamental and applied science, the human potential of the sphere of scientific research and development, the improvement of the effectiveness of scientific activity is a necessary condition for long-term technological development.

Technological development, in turn, creates new requirements for the conditions for the disclosure of each person’s talent. The demand for affordable and high-quality education at all levels is formed both by the economy and by citizens. This applies to both traditional education and various forms of distance and mixed education. Taking into account the speed of technological changes, it is critical to develop additional education in different forms and at different levels for people of all ages. An important challenge is to increase the requirements for the comfort and safety of the living environment. Technological development, which creates opportunities for flexible and remote employment, the overall growth of well-being creates new requirements for the quality and comfort of housing, the quality of the urban environment, ecology, the development of cultural and leisure environment. Environmental challenges both on a global and national scale, including the need for an effective solid waste management system, determine the necessary set of actions not only in the environmental, but also in the economic, social, and educational spheres. Another challenge is a request for social justice, poverty reduction. Economic growth should bring visible results for all groups of the population – an increase in income, an improvement in the quality of life. Increasing the targeting of social assistance, including through digitalization, and a targeted policy to accelerate income growth of low-income groups of the population are necessary conditions for responding to this challenge. Achieving national development goals requires the formation of a modern, flexible and effective management system. The main subject of management is the implementation of interrelated sets of measures aimed at achieving national goals, which are implemented both at the federal,

regional and local levels.

A wide range of stakeholders, including businesses and public organizations, are also involved in the implementation of the events.

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### Поиск путей роста эффективности рыночной экономики РФ

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**Ключевые слова и фразы:** основные показатели экономики России; пути развития; рост эффективности; рыночная экономика РФ.

**Аннотация.** С целью изучения путей дальнейшего развития и роста эффективности рыночной экономики РФ в статье проанализированы основные показатели экономики России. Применялись такие методы, как экономический и нормативный анализ, статистический обзор и прогноз. В результате проведенного исследования определены приоритетные направления экономической деятельности России.

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UDK 338

## Economic and Theoretical Problems of Solving the Problem of Poverty in Modern Russia

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**Key words and phrases:** problems of poverty; problems of inequality; problems of low standard of living of the population; directions of solving the problem of inequality and low standard of living of the population.

**Abstract.** In order to study the directions of solving the problem of poverty in Russia, an analysis of the impact of a low standard of living on the economic development of the country was carried out. The use of methods of theoretical analysis and forecasting allowed us to identify a number of effective ways to solve the problem of inequality and low living standards of the population.

The insufficiently high standard of living of the population and excessive polarization of society have a negative impact on the economic development of Russia and contradict the creation of institutions of the welfare state. The increase in inequality and poverty hinders the development of the Russian domestic market, the formation of the middle class, i.e. the solvent majority of the population. A healthy and sustainable economic growth cannot rely only on the rich and super-rich population in conditions of mass poverty.

It is poverty that determines the limited access of a significant part of the population of our country to development resources: high-paying jobs, quality education and health services, opportunities for successful socialization of children and youth.

The subsistence minimum of the population implies a cost estimate of food and non-food products necessary for life and normal existence. As of 2021, its value in Russia is 11653 rubles. But it is also necessary to take into account that from this amount it is necessary to pay taxes, utilities and buy clothes (at least sometimes). By the way, in the USA for 2020, the subsistence minimum was about 83 thousand rubles per month [4]. At the legislative level, there is a minimum wage, below which wages cannot be paid. It is 12,792 rubles for 2021 [4].

According to all-Russian surveys, 78% of the Russian population does not consider themselves poor. Today, 22% of Russian citizens rate themselves poor. This figure is higher than that given by Rosstat, but is not objective enough.

The low income level of a significant part of families, combined with excessive income polarization, cause a social rift in society, cause social tension, hinder the successful development of the country, determine the demographic crisis and crisis processes in the family and society.

Economic	<ul style="list-style-type: none"> <li>• Income redistribution</li> <li>• Income tax cuts</li> </ul>
Political	<ul style="list-style-type: none"> <li>• Cooperation with friendly countries</li> <li>• Mutual support</li> </ul>
Social	<ul style="list-style-type: none"> <li>• Low-income population support</li> <li>• Access to education</li> </ul>

**Fig. 1.** Ways of solving the problem of poverty in Russia

Today, the main issues that concern the majority of qualified and able-bodied citizens of the country are overcoming the low standard of living characteristic of a significant part of the population, gaining job guarantees, quality education, life protection, Social protection, a secure childhood and old age.

The relevance of this issue lies in the fact that social polarization, the stratification of our society into poor and rich is the main of its characteristics at the moment and in our time.

The most important social problem of modern Russia is the problem of an insufficiently high standard of living for the majority of the population. It will not be possible to solve this problem immediately. There are many ways to solve this important social problem, let's consider some of them.

The main way to solve the problem of poverty is the economic development of the country. In terms of nominal GDP, Russia ranks 11th in the world, which affects the situation of citizens.

A number of measures are required to develop the economy:

- optimization of income taxes (it should be profitable for entrepreneurs to hire employees and not pay a lot of money to the state for them);
- development of industries (it is necessary to sell not raw materials, but finished goods);
- development of small and medium-sized businesses (benefits, incentives, assistance);
- support for lagging regions.

Social guarantees need to be developed in the following areas:

- high-quality and relevant education (education of world-class specialists, increasing the attractiveness of Russian education abroad);
- assistance to the poor (cash benefits, retraining programs, stimulation of the desire to work);
- increase of pension payments for seniority and contribution to the development of the industry, enterprise, country.

Political measures necessary to solve the problem of poverty of the population include:

- participation in international projects (expansion of sales markets);
- cooperation with countries interested not only in Russian raw materials, but also products;
- increasing the attractiveness for international investments and maximizing the preservation of funds within the country.

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### Экономико-теоретические задачи решения проблемы бедности в современной России

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**Ключевые слова и фразы:** направления решения проблемы неравенства и низкого уровня жизни населения; проблемы бедности; проблемы неравенства; проблемы низкого уровня жизни населения.

**Аннотация.** С целью исследования направлений решения проблемы бедности в России был проведен анализ влияния низкого уровня жизни на экономическое развитие страны. Применение методов теоретического анализа и прогноза позволило выделить ряд эффективных направлений по решению проблемы неравенства и низкого уровня жизни населения.

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UDK 376

## Formation of Social and Household Skills in Adolescents with Autism Spectrum Disorders

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**Key words and phrases:** social and household skills; adolescence; autism spectrum disorders.

**Abstract.** The article presents the results of an experimental study, the purpose of which was to study the current level of formation of social and household skills in adolescents with autism spectrum disorders, as well as the development and testing based on the obtained data of a correctional program for the formation of social and household skills in adolescents with autism spectrum disorders. The hypothesis of the study was the assumption that the use of success situations, visual support, social stories, video modeling and generalization of skills are effective methods of forming social and household skills in adolescents with autism spectrum disorders.

Currently, there are a large number of children with autism spectrum disorder. Therefore, much attention is paid to the research of autism in psychology and defectology. Autism is a developmental feature manifested by qualitative disorders in communication, interaction in society, and stereotypy. Autism spectrum disorders develop in infants and remain in varying degrees of severity throughout a person's life. According to statistics, the first population study of children with autism spectrum disorders was conducted in 1966 in the UK – 4.1 (0.0041 %) cases per 10,000 people. In 2021, the statistic for the Russian Federation is 1.47 % per ten thousand people, and the world statistics is 1–2 % per ten thousand people.

Autism spectrum disorders are characterized by problems in communication, interaction with others, and similar reactions to stimuli. Adolescents with autism spectrum disorder are described as children with reduced intelligence, with emotional and volitional disorders, with learning difficulties, with communication and social interaction disorders, with special needs [3]. Analyzing modern research on the problem of the development of social and household skills in adolescents with autism spectrum disorders, we are faced with the fact that the topic is relevant not only for adolescents with autism, but also for people with other multiple disorders. Social and household skills mean a system of developments, knowledge and skills related to the control of one's own behavior, adaptation to the environment, communication with others, the ability to function independently in everyday life. These skills include self-eating, dressing, undressing, attitude to clothes, toilet skill, self-service skill, room cleaning, cooking and others [2].

Normotypic children observe the actions of their parents every day. Responsibilities will be distributed in the family, and helping with household chores, teenagers often unconsciously

imitate adults. By the beginning of adolescence, children freely perform household activities. They know how to be neat, store things neatly. They wash themselves, take a bath. They clean the apartment well: they clean the floors, bathrooms, and keep the kitchen clean. Typically developing children can behave at the table during meals. Able to distinguish fresh food from spoiled. They easily take care of indoor plants and pets [2].

As practice shows, most children with autism spectrum disorders have these abilities at a low level and their formation often takes years. To study the current level of social and household skills in adolescents with autism spectrum disorders, we conducted a study based on the Tula regional public organization for the assistance of disabled children with autism spectrum disorders and their families (TROOSIDRASS “Small country – We are!”), which was attended by adolescents diagnosed with autism spectrum disorder, aged 14 to 16 years. The experimental program included the methods of N.V. Kopylova, E.A. Solomakhina, I.A. Ostreikova E.P. Kochetova, based on the methods of CALS-Checklist of Adaptive Living Skills assessment of life competencies of N.G. Manelis. The results obtained allow us to conclude that adolescents with autism spectrum disorders have not formed: the skill of cleaning the room; the skill of independence in performing tasks; the skill of planning meals and cooking; the skill of caring for clothes and shoes and require correction in development. Therefore, we have compiled an approximate model for the correction and development of social and household skills in adolescents with autism spectrum disorders.

To improve the quality and standard of living of people with autism spectrum disorders, it is necessary to work in the following areas:

- 1) intellectual development and solving educational tasks;
- 2) elimination of tantrums, auto aggression, aggression, that is, undesirable forms of behavior;
- 3) mastering social and household skills.

The purpose of correctional work: the development of social and household skills in adolescents with autism spectrum disorders. The correctional and developmental program consists of fifteen classes, which should be held 1–2 times a week. The duration of one lesson is 45 minutes. The directions of the formation of social and household skills were determined:

- 1) the development and formation of the skill of cooking;
- 2) the development and formation of the skill of cleaning the room;
- 3) the development and formation of the skill of caring for clothes and shoes;
- 4) the development and formation of the skill of independence in performing tasks.

The Tula public organization for assistance to disabled children with autism spectrum disorders and their families “A small country – We are!” listed the following criteria of social and household activities: the possibility of self-service; keeping the house clean; taking care of things; the ability to manage the household (skillful handling of money, budgeting, determining the necessary need for products and household items for the implementation of life); competent work in the kitchen.

We consider the features of the formation of social and household skills in adolescents with autism spectrum disorder:

- methodological material should be divided into more consistent actions, thanks to which adolescents can perform tasks more independently;
- reduce the number of tasks performed in one lesson, so that adolescents with autism spectrum disorders can qualitatively work out skills;
- expand the overall visual schedule of the lesson, so that teenagers know what tasks need to be completed today, how long the lesson lasts and when the activity ends;

- increase the time spent in class and the total number of classes of the correctional program, so that unformed skills are worked out in more detail, the time for error correction increases;
- the quantitative composition of the group should be divided into two subgroups for effective correctional and developmental work (the criterion for separating adolescents should be the level of formation of social and household skills), classes should be conducted in parallel in different rooms;
- to work with behavior in adolescents with autism spectrum disorders, use behavioral analysis methods, ABA, the P.A.W.S.S. method, thanks to which undesirable behavior in adolescents does not have time to manifest itself, since the techniques of these methods do not allow the appearance of stimuli (S) triggering behavior, and the reaction (R) to them changes;
- to search for motivational incentives in adolescents with autism spectrum disorders, to introduce a system of incentives for more effective correctional and developmental work and the formation of new social and other skills;
- to work out in detail the interaction with parents, make recommendations, monitor the results of work outside our organization and the dynamics of the development of social and household skills;
- to create situations in which to teach adolescents with autism spectrum disorders to ask for help, use scripts (alternative communication);
- to work out the fears of adolescents with autism spectrum disorders in the use of electrical appliances, sharp and hot objects.

It is extremely important to organize a situation of success, not to rush to complicate the task, to provide support for the gradual provision of independence, so that he has a sense of security and self-confidence.

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### Формирование социально-бытовых навыков у подростков с расстройствами аутистического спектра

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**Ключевые слова и фразы:** подростковый возраст; расстройства аутистического спектра; социально-бытовые навыки.

**Аннотация.** В статье представлены результаты экспериментального исследования,

цель которого состояла в изучении актуального уровня сформированности социально-бытовых навыков у подростков с расстройствами аутистического спектра, в качестве задач выделим разработку и апробацию на основе полученных данных коррекционной программы по формированию социально-бытовых навыков у подростков с расстройствами аутистического спектра. Гипотезой исследования выступило предположение, что использование ситуаций успеха, визуальной поддержки, социальных историй, видеомоделирования и генерализации навыков является эффективными методами формирования социально-бытовых навыков у подростков с расстройствами аутистического спектра.

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