Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics

Diploma Thesis

Analysis of unemployment in Russia

Bc. Kseniia Shkondina

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Bc. Kseniia Shkondina

Economics and Management
Economics and Management

Thesis title

Analysis of unemployment in Russia

Objectives of thesis

The aim of the thesis is to define main specific features of the unemployment in Russia. The thesis consists of two main parts. The first part includes the literary review and the description of basic theoretical terms from the field of economy, labor market and methods of unemployment rate calculations in Russia.

Methodology

The practical part deals with the analysis of the Russian labor market and its specific features of the unemployment. There is also a factor analysis of the unemployment rate dependence and key economic indicators.

The proposed extent of the thesis

40 – 60 pages

Keywords

Employee, economy, unemployment, unemployment rate, labor market, Russia, unemployment policy

---

Recommended information sources

ILO. Qick guide on interpreting the unemployment rate. Geneva: International Labour Office, 2019. ISBN 978-92-2-133323-4.

ROJÍČEK, M. – SPĚVÁČEK, V. – VEJMĚLEK, J. – ZAMRAZILOVÁ, E. – ŽĎÁREK, V. *Makroekonomická analýza : teorie a praxe*. Praha: Grada Publishing, 2016. ISBN 978-80-247-5858-9.

2. GANDOLFO, G. International finance and open-economy macroeconomics. Berlin: Springer, 2002. ISBN 3-540-43459-3.

Expected date of thesis defence

2020/21 SS – FEM

The Diploma Thesis Supervisor

prof. Ing. Mansoor Maitah, Ph.D. et Ph.D.

Supervising department

Department of Economics

Electronic approval: 10. 3. 2020

prof. Ing. Miroslav Svatoš, CSc.

Head of department

Electronic approval: 11. 3. 2020

Ing. Martin Pelikán, Ph.D.

Dean

Prague on 30. 03. 2021

Declaration

I declare that I have worked on my diploma thesis titled "Analysis of unemployment in Russia " by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 31.3.2021 _____

Acknowledgement

I would like to thank the supervisor of my thesis – prof. Ing. Mansoor Maitah, Ph.D. et Ph.D., for his advices and support during my work on the thesis.

Analysis of unemployment in Russia

Abstract

The key problem of economic development of any state is the problem of employment and unemployment. The aim of the thesis is to define main specific features of the unemployment in Russia. The unemployment in Russia is analyzed in regional and sectoral aspects; determination of the main factors, which have a negative impact on the unemployment situation is made. Time lines of main indicators of the Russian labor market are analyzed. Induction methods are used to define specific features of the unemployment in Russia. As empirical material, statistics from the Russian Goskomstat, ILO, the World Bank are used. Basic mathematical-statistical methods and the methods of the regression analysis are used to analyse the unemployment rate dependence on key economic indicators (GDP, inflation rate, export, world prices of the Brent oil). Based on the synthesis of results, it is stated, that the GDP and world prices of Brent oil are the most important factors that affect unemployment rate in Russia in 2009-2020. The recommendation to improve the unemployment situation is based on mitigating the effects of these factors and relate to the restructuring of the economy, business support and investment attractiveness of the country. The benefit of the work is the definition of the area on which the policy of the labor market should focus. The results of the work identify the areas and professions that are most affected by unemployment and which, on the contrary, are the most promising in terms of employment In Russia. The thesis also deals with the current question of what effects the spread of coronavirus infection had on the labor market in Russia.

Keywords: employee, economy, unemployment, unemployment rate, labor market, Russia, unemployment policy

Analýza nezaměstnanosti v Rusku

Abstrakt

Klíčovým problémem ekonomického rozvoje každého státu je problém zaměstnanosti a nezaměstnanosti. Cílem práce je definovat hlavní specifické rysy nezaměstnanosti v Rusku. Analýza nezaměstnanosti zohledňuje regionální a odvětvové aspekty; je provedeno hodnocení hlavních faktorů, které mají negativní dopad na situaci v nezaměstnanosti. Analyzovány jsou časové řády hlavních ukazatelů ruského trhu práce. Indukční metody se používají k definování specifických rysů nezaměstnanosti v Rusku. Jako empirický materiál jsou použity statistiky ruského Goskomstatu, ILO, Světové banky. Pro analýzu závislosti míry nezaměstnanosti na klíčových ekonomických ukazatelích (HDP, míra inflace, export, světové ceny ropy Brent) se používají základní matematicko-statistické metody a metody regresní analýzy. Na základě syntézy výsledků se uvádí, že HDP a světové ceny ropy Brent jsou nejdůležitějšími faktory, které ovlivňují míru nezaměstnanosti v Rusku v letech 2009–2020. Doporučení ke zlepšení situace v nezaměstnanosti je založeno na zmírnění dopadů těchto faktorů a souvisí s restrukturalizací ekonomiky, podporou podnikání a investiční atraktivitou země. Přínosem práce je vymezení oblasti, na kterou by se měla politika trhu práce zaměřit. Výsledky práce identifikují oblasti a profese, které jsou nejvíce postiženy nezaměstnaností a které jsou naopak nejslibnější z hlediska zaměstnanosti v Rusku. Práce se také zabývá aktuální otázkou, jaké dopady mělo šíření koronavirové infekce na trh práce v Rusku.

Klíčová slova: zaměstnanec, ekonomika, nezaměstnanost, míra nezaměstnanosti, trh práce, Rusko, politika nezaměstnanosti

Table of content

List of pictures

List of tables

1 Introduction

The key problem of economic development of any state is the problem of employment and unemployment. Each country has a certain level of unemployment. If this indicator is high, then it can lead to the destruction of the economy. The standard of living of the population will begin to fall, crime will rise, and migration of the economically active population to other countries will increase. In this regard, the problem of unemployment and the search for a reduction in its negative manifestations is very urgent.

The transition to market relations in the labor sphere in the context of the restructuring of the economies of the former Soviet Union led to the emergence of a fundamentally new situation in social and labor relations. The consequences of the transformation processes still hinder the normalization of the situation in these countries. For this thesis, I chose country of Russia, because its development and mentality are very close to me and the study of problems in it is of great interest to me. I would like to use the knowledge gained during the study of economics at the university and draw certain conclusions about what hinders the successful development of this country.

Unemployment is a problem that can affect everyone. This situation is especially difficult and painful for women, youth, emigrants, residents of remote regions and other segments of the population. Due to the specificity of socio-psychological characteristics, lack of experience or qualifications, stereotypes and discrimination, these groups of people seem to be insufficiently prepared for the modern realities of the labor market.

The need to analyze the Russian labor market is due to the importance of combating high unemployment during the current crisis associated with the pandemic and sanctions. The country's high dependence on the export of energy resources and the unstable situation in foreign markets increase the risks of unemployment for many segments of the population.

2 Objectives and Methodology

2.1 Objectives

The aim of the thesis is to define main specific features of the unemployment in Russia. The unemployment in Russia is analyzed in regional and sectoral aspects; determination of the main factors, which have a negative impact on the unemployment situation is made. The benefit of the work is the definition of the area on which the policy of the labor market should focus. The results of the work identify the areas and professions that are most affected by unemployment and which, on the contrary, are the most promising in terms of employment In Russia. The thesis also deals with the current question of what effects the spread of coronavirus infection had on the labor market in Russia.

Research questions:

- What factors affect growth of unemployment in Russia?
- What areas and professions are most affected by unemployment in Russia?
- What areas and professions are, on the contrary, the most promising in terms od employment in Russia?
- What measures can be proposed to alleviate the negative effects of unemployment in Russia?

2.2 Methodology

The theoretical part of the thesis is processed using the methods of literary research and description. The basic concepts are described – employment, unemployment, who is considered unemployed according to the methodology of the Labor Office in Russia and the ILO (International Labour Organization). The employment policy is described and its main directions in Russia are defined. Interesting non-traditional methods of fight against the unemployment are also presented and some accompaniments of experts to improve the situation on the labor markets are explored. A theoretical investigation is performed of what economic factors affect the unemployment rate.

The main tool of the practical part is analysis. Induction methods are used to define specific features of the unemployment in Russia. As empirical material, statistics from the

Russian Goskomstat, ILO, the World Bank and the results of the secondary opinion polls are used. Time lines of main indicators of the Russian labor market are analysed. These are mainly the indicators of labor force, employment and unemployment rates. Basic mathematical-statistical methods are used for data analysis, annual changes (%) are calculated.

There is also a analysis of the dependence of unemployment rate and selected economic indicators (GDP, inflation rate, world prices of oil Brent, export) in 2009-2020. The annual changes of the indicators are used for these propose. The methods of regression analysis, provided by the Excel tool, help to indicate and characterize dependences.

According to Hindls (2007, p. 170), the main function of the statistical method of regression analysis is to determine the causal dependencies between two phenomena. This can be understood as a simple relationship – if there is one phenomenon, it will cause another.

The goal of regression analysis is to bring the empirical (calculated) regression function as close as possible to the hypothetical regression function (Hindls, 2007, p. 177). Hindls (2007, p. 186) further states that the most commonly used type of regression function is line regression, which has the form:

$Y = \beta_0 + \beta_1 x.$

Estimates of the parameters β_0 and β_1 are performed using the least squares method.

Attention is paid to these main indicators of the results of the regression analysis:

- coefficient of correlation (Multiple R): it takes values from 0 to 1. The larger value of the coefficient (ie closer to 1) means the stronger relationship between the variables,
- coefficient of determination (R Square): the closer it gets to 1, the more reliable is the model,
- significance F: the value of the coefficient is calculated with the selected confidence level (0,95 or 0,99). If it is less than 0,05 or 0,01, the relationship between the variables is statistically significant.

Based on the synthesis of results, conclusions are drawn about the factors that most affect unemployment in Russia. The recommendation to improve the unemployment situation is based on mitigating the effects of these factors.

3 Literature Review

3.1 Historical aspects of unemployment research

Unemployment was studied in such areas of economic thought as:

- classical political economy (A. Smith, T. Malthus, D. Ricardo);
- marxism (K. Marx, F. Engels);
- neoclassical economic theory (J. Perry, R. Hall);
- keynesianism (J. Keynes);
- monetarism (M. Friedman, E. Phelps).

According to the doctrine of classical political economy, unemployment appears due to the too high size of the average wage: due to its level, employers have no interest in hiring employees, and when the amount of money paid for work is reduced, employees refuse to fulfill their job duties (Dudina, Arselgova, 2019).

In the Marxist theory, unemployment is considered as an inherent phenomenon of capitalism. Karl Marx (1818–1883) in "Capital" devoted much attention to the study of unemployment. He noticed that as technical progress progresses, the number of objects of production and their cost per employee of the enterprise are constantly increasing. It convinced Marx of the idea of a decrease in the demand for labour as the "exploiters" accumulate capital (Dedeeva, Galushko, Bazhenova, 2020).

In the neoclassical direction, unemployment is viewed as a voluntary phenomenon arising from too high demands of the labor force regarding the size of wages (Dudina, Arselgova, 2019). Proponents of the neoclassical concept believe that the action of the labor market is based on conditional equilibrium, thus the key market regulator is the price, in this case, expressed in the form of wages (Hall, 2005).

The founder of Keynesian theory, formed during the 30s of the twentieth century, is J.M. Keynes (1883-1946), who is the most authoritative expert in the macroeconomic field of economics. Keynes is the founder of modern theory of the employment market. The work "The General Theory of Employment, Interest and Money", published in 1936, contained a fundamentally different interpretation of the reasons why unemployment is formed and reproduced than before.

Monetarist theory is similar to Keynesian one, since these ideas are based on opinions about the impossibility of natural and transparent regulation of the labor market, the presence of strong associations of workers, called trade unions, and also due to the impossibility of obtaining information on the availability of certain vacancies and the number of applicants for the place. Monetarists and the new classical macroeconomics work with the concept of the natural rate of unemployment (Rojíček et al., 2016).

3.2 Concept of unemployment

Before starting defining who is unemployed, it should be described the concepts of active population, and persons who is considered to be employed. It would seem that the concept of a "employed person" is absolutely simple and understandable, however, in the literature and laws, one can find quite different and voluminous definitions.

The country's population can usually be divided into economically active population (labour force), ie employed and unemployed and economically inactive population (see figure 1)

Figure 1 Population by ecnomic aktivity
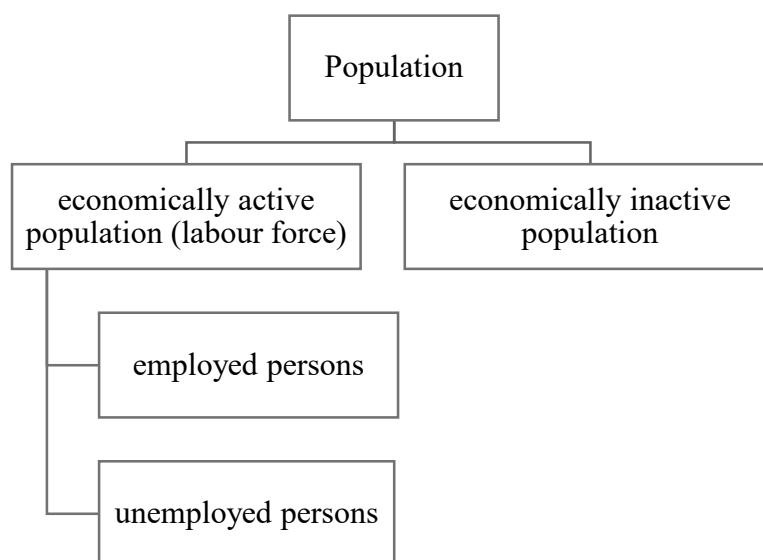
Source: own creation based on Liška et al., 2004

3.2.1   Definition the employment in Russia

The Russian law no. 1032, on employment of the population in the Russian Federation, defines employment as the activity of neationals related to the satisfaction of

personal and social needs, which does not contradict the legislation of the Russian Federation and, as a rule, brings them earnings, labor income (earnings). Compulsion to labor in any form is not allowed, except in cases provided by law. The unemployment of people in Russia cannot serve as a basis for bringing them to administrative and other liability. Russian law very broadly defines the concept of employment. Based on the Law no. 1032 and its current versions, these persons are considered employed:

- working under an employment contract, including those who perform work for the reward on a full or part-time basis, as well as having other paid job, including seasonal, temporary work, with the exception of public works and the exercise of the powers of members of election commissions, referendum commissions with a decisive vote not on a permanent (regular) basis;
- registered as individual entrepreneurs (self-employed persons), as well as notaries engaged in private practice, lawyers who have established law offices, and other persons whose professional activities in accordance with federal laws are subject to state registration and (or) licensing;
- employed in subsidiary trades and selling products under contracts;
- performing work under contracts of a civil nature, the subjects of which are the performance of work and the provision of services, copyright contracts, as well as members of production cooperatives (artels);
- elected, appointed or approved for a paid position;
- undergoing military service, alternative civilian service, as well as service in internal affairs bodies, the State Fire Service, institutions and bodies of the penal system;
- full-time students studying in organizations carrying out educational activities, including training in the direction of the state employment service;
- temporarily absent from the workplace due to disability, vacation, retraining, advanced training, suspension of production caused by a strike, call for military training, involvement in activities related to preparation for military service (alternative civilian service), performance of other state duties or other good reasons;
- who are founders (participants) of organizations, with the exception of founders (participants) of non-profit organizations, including members of homeowners'

associations, as well as members of housing and housing-construction, garage cooperatives and other specialized consumer cooperatives created to meet the needs of citizens who do not receive income from their activities;

- who are members of a peasant establishments (farms).

It is important not to confuse the terms "employee" and "employed persons". It is evident that employees are only one (although the most important) category of employed persons (eg according to Law no. 1032). Other categories are also among the employed persons: eg self-employed persons, members of farms, persons undergoing military service etc. Employee holds the employment contract, other types of employed persons – other specific contracts or licenses.

In this regard, Rosstat (2008) uses a detailed classification of the employed population and provides the following definitions:

- employees or salaried workers – persons who perform work identified as "work for hire". It is the work in which a person enters into an explicit (written or oral) or implicit employment contract that guarantees him a basic remuneration (in cash or in kind) that does not directly depend on the income of the unit where the person works. Fixed assets, some or all of the tools, premises that a person uses in the labor process may belong to others. An employee's activities may be carried out under the direct control of the owner or persons designated by the owner and employed by him. Elected, appointed or approved for a paid position, including the leaders who manage the activities of the organization on behalf of the owner, ministers of religious denominations, are considered employees;
- persons, who are not employees or salaried works, but carry out work defined as "work in their own enterprise, in their own business". This is work in which the remuneration is directly dependent on the income received from the production of goods and services. The person makes production decisions related to the activities of the enterprise (own business), or delegates these powers, leaving behind the responsibility for the well-being of the enterprise (own business). This group brings together employers, self-employed persons, members of production cooperatives who help in a family business.

3.2.2 Definition of the unemployed person according to the Russian law

In accordance with the legislation of the Russian Federation (Law no. 1032), persons, who meet the following criteria are recognized as unemployed:

- ability to work (person is able-bodied);
- lack of work and earnings (person do not have work and income);
- registration of the unemployment at the employment offices centers;
- looking for a job and are readiness to start working.

These payments are not considered as the income in the above definition: payments of severance pay and retained average earnings to citizens, dismissed in connection with the liquidation of an organization or the termination of activities by an individual entrepreneur, reduction in the number or employees of an organization or an individual entrepreneur. According to the Labor Code of the Russian Federation, an individual entrepreneur in Russia (as opposed to an self-employed person in the Czech Republic) has the right to hire employees and this process is not much different from the employing persons in the private enterprises.

The decision on recognizing a citizen registered in order to find a suitable job as unemployed is taken by the employment service at the place of residence of the citizen no later than 11 days from the date of presentation of the necessary documents to the employment service (Law no. 1032).

The law also establishes the conditions under which a person cannot be recognized as unemployed in Russia. These persons cannot be recognized as unemployed (Law no. 1032):

- under the age of 16;
- taking some type (or types) of pension – an old-age insurance pension, rematurely pension, funded pension, state pension under long-term work;
- those who refused within 10 days from the date of their registration with the employment service in order to find a suitable job from two options for a suitable job, including temporary work, and those who are looking for a job for the first time (who have not previously worked) and do not have qualifications – in the

case of two refusals vocational training or from offered paid work, including temporary work;

- those who did not appear without good reason within 10 days from the date of their registration in order to find a suitable job in the employment service to offer them suitable work or for the registering them as unemployed;

- convicted by a court decision to correctional labor, as well as to punishment in the form of imprisonment;

- those who have submitted documents containing deliberately false information about the absence of work and earnings, as well as who have submitted other inaccurate data for their recognition as unemployed.

3.2.3   Definition of the unemployed person according to ILO

The definition of an unemployed person according to the International Labour Organization (ILO) differs from the definition in Russian legislation. Russian law defines only rate of registered unemployment, while the ILO – the general unemployment rate.

„*Persons in unemployment are defined as all those of working age who were not in employment, carried out activities to seek employment during a specified recent period and were currently available to take up employment given a job opportunity*.” (ILO, n/d).

Pupils, students, pensioners and people with disabilities are also counted as unemployed if they were looking for work and were ready to start working (Rosstat, 2008).

So, unemployed persons are (Helísek, 2002):

- population from the age of 15;
- all who, during the reference period, meet the following three at the same time basic conditions:
    o   they had no job, ie. neither paid jobs nor self-employment,
    o   actively searched for a work (both themselves and, for example, with the help of the labor office or recruitment agencies),
    o   were ready and willing to start work (within two weeks they were ready to take up employment or self-employment).

21

3.3 Types of unemployment

Economists usually state three main types of unemployment: frictional, structural and cyclical. These types are linked to the main causes of unemployment, and each type is a different challenge to macroeconomic policy (Liška, 2004).

Frictional unemployment

Frictional unemployment is temporary unemployment, which is associated with entering and leaving the labour market, or normal labour turnover. This unemployment is basically inevitable. Its removal would only be possible by forcing each jobseeker to accept the first job offered. Some frictional unemployment is also desirable, because finding people in which they will be satisfied will increase their productivity and thus the productivity of the whole economy. (Liška, 2004).

Structural unemployment

The structural changes that the economy is going through require adaptation on the side of resources. Structural unemployment occurs when this adaptation is not fast enough, leading to unemployment in some sectors, occupations or areas where the demand for labour is declining faster than the supply. Structural unemployment therefore arises as a result of structural changes in the economy, with some responses shrinking and others expanding (Holman, 2005).

A clear distinction between frictional and structural unemployment and their measurement is difficult. Frictional and structural unemployment is characterized by the fact that the number of vacancies (free working places) is higher than the number of unemployed. Structural unemployment usually takes longer than frictional, as gaining a new job in this case requires retraining or a change of residence. As this unemployment is long-lasting, it becomes a certain social problem. However, it is a necessary phenomenon of a flexible economy in which structural changes are taking place.

Cyclical unemployment

Unemployment resulting from a general economic recession is called cyclical unemployment because it is associated with a declining phase of the economic cycle. During the recession, the overall demand in the economy is insufficient, and thus the demand for labour is low. Therefore, this type of unemployment is also called unemployment from insufficient demand (Economics Online, 2020). In this situation, the number of people looking for work is higher than the number of vacancies. Reducing this type of unemployment is one of the main goals of macroeconomic policy, because the negative effects of cyclical unemployment become stronger due the fact that they affect the entire economy globally, across all sectors of the economy (Jurečka et al., 2017).

Voluntary and involuntary unemployment

The neoclassical economic literature also defines two other types of unemployment: voluntary and involuntary (Jurečka et al., 2017). According to Soukupová et al. (2004), voluntary unemployment arises when the unemployed person is not willing to accept the prevailing wage rate (or other working conditions). Involuntary unemployment means that an unemployed person is willing to take a job at the prevailing wage rate, but cannot find such a job.

Seasonal unemployment

Seasonal unemployment is determined by seasonal fluctuations in the volume of production of certain industries: construction, agriculture, and industries, in which significant changes in the demand for labour are made during the year. Seasonal fluctuations in the demand for labour are determined by the specifics of the production processes. As a result, the scale of seasonal unemployment in aggregate can be predicted and taken into account when signing contracts between employers and employees. (Davydova, Bezyaieva, 2014).

Unemployment by the duration parameter

According to the duration parameter and social aspects, the following types of unemployment are defined (Butov, Ignatov, Ketova, 2016):

- long-term unemployment – can be observed if there is no work for 4-8 months. This unemployment is characterized by the beginning of the employee's qualification reduction, self-doubt, unwillingness to find work on their own;
- continual long-term unemployment – for 8-18 months. In such conditions, a general reduction or loss of the person's qualification, labour skills and the ability to work intensively for the required time begins;
- stagnant unemployment for more than 18 months. In such conditions, a degradation of human laboyr potential appears. In order to restore a person's previous attitude to work, an individual approach is often required.

3.4 Socio-economic effects of unemployment

Unemployment is a socio-economic problem that affects both each citizen individually and the entire state as a whole. On the one hand, a part of the population loses a source of earnings, the living standard of people decreases. Unemployment brings people not only poverty, but also the exclusion of many areas of social life – from active leisure, education, quality housing, etc. On the other hand, the country loses services and goods potentially capable of production, thus, the level of production decreases. For the state and other people, high unemployment can also occure pressure to increase unemployment insurance payments.

From a global economic point of view, ineffective use of productive forces, or labor, leads to underemployment of production capacities, as well as to an incomplete use of public resources, to a decrease in the country's potential gross product and national income (Klimova, Egorova, 2014).

From a social point of view, unemployment leads to an aggravation of social problems and social tension in society (Klimova, Egorova, 2014). Among the negative social impacts of unemployment are usually also stated: the increase in crime, strong negative effect on public social activities and occurring the family conflicts (Kunze, Suppa, 2020). Dooly and Prause (2003) examined the effects of unemployment in various aspects – such as alcohol abuse, depression, self-esteem, also the effect of mothers' employment on babies' birth weights. Financial problems, caused by job loss, are the biggest stressor and typical factor of depression (Samara et al., 2020). Comprehensice research of the negative effects of unemployment on the people's health is made by Keiselbach et al. (2006).

Korhonen and Huikari (2015) explored, that a possible future job loss has an effect on the number of suicides of men in working age.

Unemployment is also one of the main factors of social exclusion. According to Šimíková (2004), ethnic groups are the most endangered social categories that are affected by social exclusion. Their position on the labour market is therefore crucial for the integration of minorities into society.

For these negative effects of unemployment, the economic system functions ineffectively, not fully using its production capabilities, and unemployment is inextricably linked with the ongoing structural changes in the national economy and the world economy (Krivolaba, 2017). As a consequence, the unemployment rate is one of the main indicators that reflects the general state of the economy.

The socio-economic consequences of unemployment are considered along with the problems of poverty and social instability as one of the most acute global and national problems. Given this, creating a realistic picture of the situation on the labour market is a very important task for which the state statistics are responsible.

3.5 Methodology of the unemployment calculation in Russia

Despite the fact that Law No. 1032 provides only for registered unemployment, the international definitions of employment and unemployment recommended by the ILO are used in Russia, when publishing data from population surveys on employment problems. The methodology for calculating the main indicators in the labor market in Russia is developed by Rosstat (Statistický úřad Ruské federace).

The need to change the usual methods of keeping statistics appeared especially in the first post-reform years, when a huge gap between registered and total unemployment rates was established. In 1992, the first sample labor force survey in Russia was carried out and it became possible to measure unemployment in accordance with generally accepted statistical criteria. It was found that a very small part of the Russian unemployed persons apply for official registration at the state employment services. It might seem that the lag of registered unemployment from the total is just an accidental fact that arose at the initial stage of reforms. But it was discovered, that this gap not only have no tend to decrease,

but, on the contrary, becomes more and more with the passage of time. According to the results of the study, during the 90s, the gap in indicators reached 3.5-7 times in Russia (Kapelyushnikov, 2002).

In this regard, modern statistics in Russia uses the ILO standards, according to which *„the unemployment rate expresses the number of unemployed as a percent of the labour force.“* (ILO, n/d).

The unemployment rate (UR) is calcuated as follows (ILO, n/d):

$$UR = \frac{Persons\ unemployed}{Labour\ foce} \times 100\ \%$$

Since the labor force is the sum of the employed and the unemployed persons, the formula of UR can be recorded as follows (ILO, n/d):

$$UR = \frac{Persons\ unemployed}{Persons\ employed + persons\ unemployed} \times 100\ \%$$

Specific indicators of unemployment are sometimes also used:

- long-term unemployment rate = share of unemployed for more than 13 weeks / economically active population,
- rate of redundancies = share of those who have currently lost their job / economically active population,
- normal unemployment rate = all unemployed in the last 4 weeks who tried to find a job / economically active population.

3.5.1 Employment survey of the Russian population

Employment survey of the Russian population is a regular statistical survey, conducted by Rosstat through monthly and quarterly surveys of the population in households.

When conducting a labor force survey, the unemployed persons in Russia are classified according to the following characteristics (Rosstat, 2016):

- types of economic activities at the last place of work in accordance with the All-Russian Classifier of Economic Activities (OKVED), which is harmonized with

the official version of the Statistical Classification of Economic Activities in the European Economic Community (NACE Rev. 1);

- professions and positions at the last place of work in accordance with the All-Russian Classification of Occupations, which is harmonized with ISCO (International Standard Classification of Occupations);
- education – the level of education and profession / specialty acquired after graduation from educational institutions.

3.5.2 Benefits and disadvantages of the current research method in Russia

The current research method in Russia has certain benefits.

This method is widely used in countries with market economies, which makes the obtained indicators comparable at the international level.

A population survey on employment problems is the only method that allows both to measure the number of persons employed in economic activity, unemployed persons and economically inactive persons, to estimate the real size of unemployment both in the country as a whole and in individual constituent entities of the Russian Federation.

The obtained indicators are used to forecast the socio-economic development of Russia and the constituent entities of the Russian Federation, to identify areas with a tense situation in the labor market in accordance with the "Rules for assigning territories to areas with a tense situation in the labor market no. 875", approved by the Government of the Russian Federation on 21th November 2000.

The disadvantages of the current survey method include:

- insufficient coverage of the sample of districts and population groups (no more than 0.73% of the working-age population of Russia is surveyed per year (Rosstat, 2016);
- the presence of an error in the values of indicators, which is due to the sample used and the truthfulness of the answers of the interviewed citizens;
- inaccuracies in the assessment by the population of the industry affiliation of the organizations in which they worked;

- high labor intensity and cost of conducting surveys.

Some problems can also arise when there are wide differences in the frequency of data collection. Given the fact that seasonality is undoubtedly present in the country, employment rates can change for this reason. In addition, changes in employment levels can occur throughout the year, but they can be masked in the case of fewer observations. (ILO, 2011).

According to non-state experts, there are many unemployed people in the country whose employment is not officially reported. Accordingly, they are not taken into account in Rosstat reports according the ILO methodology and may not reflect the real state of affairs with unemployment in individual subjects of the Russian Federation and in the country as a whole (Pearson Agency, 2017). Analysts estimated the real unemployment rate to be twice as high as the official one in Russia: according to analysts of the international audit and consulting network FinExpertiza (Vlasova, 2020), the number of unemployed in Russia in 2020 could reach 9.3 million, or 12% of the economically active population; in some regions, real unemployment is approaching 40%. According to Rosstat (2020), the unemployment in Russia was 6.3% in October 2020.

Disadvantages of the methodology in collecting statistical data, which cause the distortion of the current situation on the labor market in Russia, can reduce the effectiveness of employment state policy planning.

3.6 Employment policy in Russia

State employment policy includes securing the right to employment, monitoring, evaluating the situation on the labor market, preparing forecasts and concepts of employment and human resources development in the labor market, coordination of employment measures, implementation of active employment policy, creation and participation in international programs employment, counseling and mediation services on the labor market, equal treatment, employment of people with disabilities, directing the employment of workers from abroad (Davidová, n/d).

In connection with the development of the situation on the labor market, the state implements (Dvořáková, 2012):

- passive employment policy – determining the amount of unemployment benefits and other transfers to the unemployed;
- active employment policy – support for job creation, youth employment and retraining;
- economic and political measures – investment incentives, support for small and medium-sized enterprises, regional programs, etc.

The aim of the active employment policy is ensuring balance in the labor market. Active employment policy is provided from funds earmarked for employment policy. Within this active policy, there are programs and measures of a regional and national nature, as well as international employment programs (Kolman, 2007).

It is important to understand, that the measures of the active employment policy do not aim to ensuring the highest possible level of employment. It it correctly to speak about the maximum possible employment, so social reality is taken into account here (Kolman, 2007).

3.6.1   State program "Promotion of Emloyment of the Population" 2013-2024

At present, Russia has developed the State Program "Promotion of Employment of the Population" for the period 2013-2024. The responsible executor of the Program is the Ministry of Labor and Social Protection of the Russian Federation. The subprograms of the Program include: subprogram "Active employment policy and social support for unemployed citizens"; subprogram "Development of labor market institutions"; subprogram "Safe work" (Mintrud, 2020).

The aim of the Program is to create legal, economic and institutional conditions conducive to the effective development of the labor market. The objectives of the program are (Mintrud, 2020):

- to ensure the implementation of the citizens' right to protection from unemployment;
- to increase the efficiency of regulation of the processes of using labor resources and to ensure the protection of the labor rights of citizens;
- introduction of a culture of safe work.

The total amount of budgetary allocations for the implementation of the Program from the federal budget and the state extra-budgetary funds is 809.7 billions rubles. The dynamics of the allocation of funds from these sources by year is shown in Figure 2. In the period up to 2016, 2 voluminous subprograms "External labor migration" (2013-2016) and "Assistance to the voluntary resettlement of compatriots living abroad to the Russian Federation" were implemented (2015-2016 years). In this regard, at the end of these subprograms, the budget was reduced in 2017-2018.

Figure 2 **Amount of funding for the State Program "Promotion of employment of the population", Russia, 2013-2024**
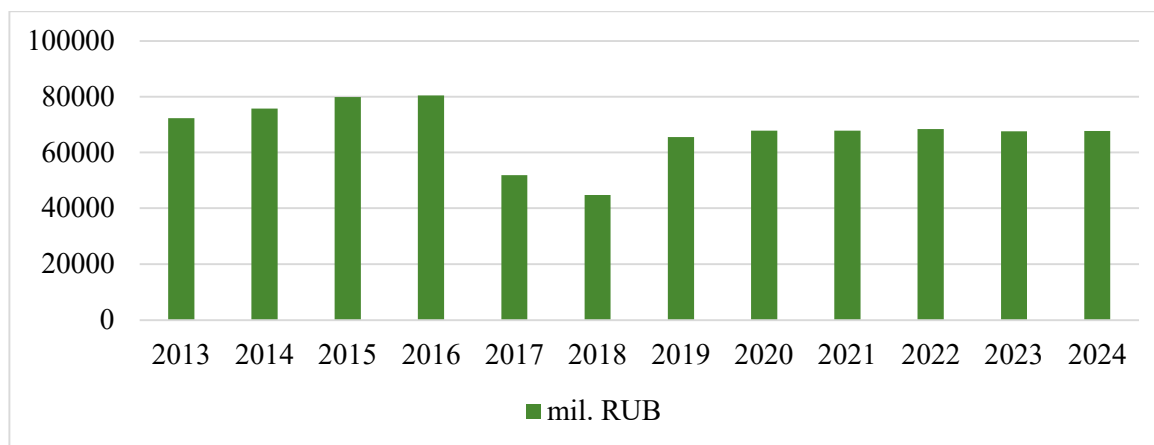
Source: own creation based on the data of Mintrud (2020)

The actual results of the implementation of the main activities of the state program are presented in the sections of the annual reports containing a text description of the results of the implementation of the main activities of the subprograms. The analysis of changes in labor market indicators describing the situation allows to asses, how really effective the employment policy was in different periods.

3.6.2   Recommendations for state employment policy

The state plays a major role in pursuing a passive policy of unemployment regulation, providing assistance to the unemployed in finding employment. However, not all active policy measures are effective. Experts offer many recommendations for improving the state of the labour market. An expert on the labour market in Russia, Ibragimova (2017) advice the following measures to prevent unemployment:

- the mechanism of social partnership: to regulate employment and unemployment in order to protect against unemployment, it is necessary to involve wider trade unions,

- support of the self-employment: this will allow citizens to carry out economic activities in order to generate income for a relatively good life. Self-employment can be stimulated by providing assistance for organizing business, both by financial supporting and in the form of training / education,

- support for small businesses: formation of a favorable socio-economic climate, legal protection of both entrepreneurs and their employees, simplification of procedures for registration and licensing of enterprises, stimulating the desire of citizens to engage in entrepreneurship, etc.,

- retraining of personnel: this is important for the unemployed from the point of view of obtaining practical work skills for organizing entrepreneurship, in general, obtaining a new specialty, that is wanted on the labour market,

- public works: the organization of the public works program is primarily aimed at maintaining the income of the unemployed. In addition, such activities allow citizens to preserve skills and abilities, the required level of qualifications during the period of job search,

- introduction of quotas for jobs: such a mechanism must be introduced in all spheres of activity. Quotas will allow especially vulnerable groups of the population (youth, people with disabilities, women) to gain the necessary experience and work experience in their specialty to get a more prestigious or highly paid job,

- benefits for employers: the system of preferences in the form of concessional lending and taxation, economic support in placing orders for goods and services for state needs for employers who have a certain share of young people or other, certain groups of the population in the state of an organization or enterprise can significantly reduce the unemployment rate,

- flexible forms of employment: the use of part-time work, hiring workers for casual jobs on the terms of short-term employment contracts, home work, telecommuting, borrowed labour, etc. allow solving labour problems. On the one hand, such forms take into account the individual abilities and needs of the working-age population and allow them to receive income. On the other hand,

31

entrepreneurs develop their production based on the availability and quality of the available labour force.

- information support of the labour market. Employment services must have information about the labour market of the entire country as a whole (in the context of regions, types of activities, industries) to provide data on job vacancies. In addition, having data on possible layoffs at enterprises and organizations, employment services can promptly react and propose measures to prevent unemployment, in particular, organize training and retraining courses, etc.,

- support for non-governmental services providing employment for the population: commercial labor exchanges, recruiting agencies etc. also resolve issues of employment, training, informing about vacant jobs, social support for the population, legal advice, etc.

The above recommendations presuppose strong financial support from the state – for example, benefits for employers, support for commercial labour exchanges, etc. The implementation of these recommendations is therefore possible with the effective distribution of the state budget and the government's interest in reducing unemployment and improving the life of the population.

The disadvantage of the above recommendations is that their author does not indicate how specifically these recommendations can affect the situation. That is, the recommendations are not supported by analytics, calculations, forecasts. An example of a methodology for calculating the results of employment policy methods can be found for example in the dissertation work Štáfka (2016).

It is important that in addition to specific measures to reduce unemployment, it is important to work in preventing its occurrence in general. The main role here is played by the ongoing economic policy, including macroeconomic, investment, scientific and technical, and social. It is necessary to clearly define the priority directions of the country's development, keeping the balance of its production capabilities (Ibragimova, 2017).

3.6.3   Examples of unusual ways to combat unemployment

In the history of employment polocies in different countries, there were some interesting and non-traditional examples of ways to fight with unemployment. When conventional employment policies do not work or are not effective enough, some creative solutions to the problem emerge.

For example, the government of the Swedish town of Söderhamn, where the unemployment rate is over 25%, has organized a program for the younger generation called "Travel to Work". The authorities payed the local unemployed a ticket, as well as a month of accommodation in a hostel (25 euros per day) in the Norwegian capital, where the unemployment rate was only 2.8%. The Swedes who took part in this program and were able to find work in Oslo were very pleased. Those Swedes immigrants who failed to find work in Norway must return to their homeland, but they visited the neighboring country almost free of charge. The English-language Norway Post implies that this was an attempt by Swedish officials to shift their job problems from their country, where the youth unemployment rate was 23% - to Norway, where unemployment was significantly lower (Buckley, 2012).

Another unusual way to support the unemployed was invented in South Wales, when an announcement appeared in the city of Aberdare that the unemployed were offered sun tanning for free (Buckley, 2012). It may have been just a clever marketing promotion, but an interview with the BBC (Taylor, 2012) with representatives of the non-profit organization – the Well Being Academy shed light on the true reasons for this support: "*Sarah and her colleague Cerys Dutton say their center is a one-stop shop where unemployed people can get advice and training to find work but can also help in improving their health, confidence and appearance.*" (Taylor, BBC, 2012). They said, that it's hard to tell someone "your hygiene isn't the best" or "you need to take more care of your clothes or etiquette" – but these simple "treatments" can help to get back to work. Sarah and Cerys believe that problems associated with a lack of body care and overall appearance are often the real reason for rejecting a job application (Taylor, BBC, 2012). Of course, labour offices focus on training or retraining, but they do not deal with the issue of personal development or care for their body and health. Because of this, this non-traditional initiative from Wales has its justification.

Japan has come up with an ingenious way to bring job seekers and potential employers together. The government organizes a paid bus tour for the officially registered unemployed. During three days tour participants visit seven companies in the prefecture, from a restaurant to a metallurgical plant, that need a labour force, get acquainted with their work and can offer them their labour. Many unemployed people living in large cities do not consider working in the provinces or do not want to move there for reasons of peculiar prestige, although due to urbanization, provincial cities and villages often feel a labour lack even in times of crisis. (Klimova, Egorova, 2014).

3.7 Relationship between unemployment and other macroeconomic indicators

Before proceeding directly to the data analysis, it is necessary to first select the factors that may have an impact on the unemployment rate.

3.7.1 Gross domestic product and Okun's law

Unemployment means wasting resources. If the unemployment rate is higher than the natural rate of unemployment, the economy will produce less than it could at the level of potential output. This characterizes Okun's law:

"*If the actual unemployment rate is 1 % point above the natural unemployment rate, the actual product will be 2 % points below its potential level*" (Šetek, 2019, p. 5).

The principle of Okun's formula was determined by the relationship between the growth of cyclical unemployment and the level of production of a country or a particular region. The researcher made his conclusions based on empirical (practical) observations. This law expresses the relationship between GDP growth and unemployment (Dvořáček, 2012, p. 30).

Gross domestic product (GDP) is a monetary expression of the total value of goods and services newly created in a given period in a given territory; used to determine economic performance (ČSÚ, 2021).

GDP can be defined, resp. calculated in three ways: (1) the production method, (2) the expenditure method, and (3) the income method.

The production method calculates GDP as the sum of gross value added of individual institutional sectors or industries and net taxes on products (which are not broken down by sectors and industries). Gross value added is the difference between production and intermediate consumption. Given that output is valued at basic prices and use at purchasers' prices, the resource side of the national economy is supplemented by taxes less subsidies on products (ČSÚ, 2021).

GDP = Production – Intermediate consumption + Taxes on products – Subsidies on products.

The expenditure method calculates GDP as the sum of the final use of goods and services by resident units (actual final consumption and gross capital formation) and the balance of exports and imports of goods and services. Actual final consumption is derived through social transfers in kind from final consumption expenditure of households, government and non-profit institutions serving households. Gross capital formation is divided into gross fixed capital formation, changes in inventories and net acquisition of valuables (ČSÚ, 2021).

GDP = Final consumption expenditure + Gross capital formation + Exports of goods and services – Imports of goods and services.

With the income method, GDP is calculated as the sum of primary incomes for the national economy as a whole: compensation of employees, taxes on production and imports less subsidies and gross operating surplus and mixed income (or net operating surplus and mixed income and consumption of fixed capital) (ČSÚ, 2021).

GDP = Compensation of employees + Taxes on production and imports – Subsidies + Net operating surplus + Net mixed income + Consumption of fixed capital.

3.7.2 Inflation

Inflation is an economic phenomenon that appeared in all world economies. It is an integral part of it, it has existed since ancient times. Inflation is one of the phenomena of economic development, which attracts considerable attention not only among economists, but also among politicians and ordinary people. Inflation is understood as something that has a negative impact on people's lives. Therefore, some are often referred to as "economic

evil." (Pavelka, 2007, p. 134) The government and central banks often intervene to reduce inflation.

There are many definitions that explain the concept of inflation. It is most often referred to as an increase in the general price level. This definition can also be understood as rising prices for all goods and services. This is a very general definition, which can be found already in teaching at secondary schools.

"*Inflation is an economic quantity measuring the growth rate of the price level. Inflation usually refers to a certain period of time, usually one year.*" (Kraft, Bednářová, Kocourek, 2008, p. 47)

According to Holman (2001, p. 538), inflation means rising prices or decreasing the purchasing power of money. Inflation is a reduction in the purchasing power of money, not the purchasing power of people. Inflation reduces the amount of goods and services we can buy per monetary unit (per crown), but does not reduce the amount of goods and services we can buy for our income. Inflation increases not only the prices of goods and services, but all prices – including wages, rents, interest and other factors of production.

There is a rare consensus among economists on inflation: inflation is an 'economic evil'. But why is inflation "evil"? People usually fear inflation because they believe it is lowering their real incomes. They think that as prices rise, they will be able to buy less goods and services. But this is a mistake – inflation not only increases prices, but also wages and other pensions. (Holman, 2001, p. 542).

The development of expected inflation influences the behavior of economic entities, unexpected inflation is influenced by phenomena that operate outside the development of the economy. Factors for an increase in the price level thus come from both aggregate demand and aggregate supply. Accordingly, we divide the causes of inflation into two basic groups:

- inflation driven by demand: arises when aggregate demand exceeds aggregate supply. Kraft, Bednářová and Koucourek (2008, p. 49) state that the growth of demand causes the excess of the demanded quantity over the offered and leads to an increase in prices. This positive demand shock can be caused by the growth of

government expenditures, the growth of investment expenditures of companies, the growth of household consumption expenditures, the increase of net exports ets. (Pavelka, 2007, p. 140);

- inflation driven costs (supply inflation): lies in the decline in aggregate supply due to a large (and sometimes sudden) rise in costs (Tuleja, Majerová, Nezval, 2006, p. 119). Pavelka (2007, p. 141) says that aggregate supply is declining due to rising costs. This means that companies will be willing to offer the same amount of production at higher prices when costs increase (eg nominal wage increases, raw material growth).

Differen price indices are used to express the size of inflation. According to Pavelka (2007, p. 135), the consumer price index (CPI) is the most frequently used index for determining inflation. Every month, statisticians find out the prices of a certain basket of goods and services. The composition of the basket is stable for several years. CPI is calculated according to the formula (Jurečka, 2017, p. 129):

$$CPI = \frac{the\ value\ of\ the\ given\ consumer\ basket\ in\ current\ year\ prices}{the\ value\ of\ the\ given\ consumer\ basket\ in\ the\ prices\ of\ the\ base\ period} \times 100$$

The value of a basket is calculated by multiplying a given quantity of each product or service by its price for the relevant period. If the value of the index is higher than 100, it means that the price level has risen and that inflation is taking place (Jurečka, 2017, p. 129).

3.7.3 Philips curve

The relationship between inflation and unemployment is shown by the Philips curve. The author of this curve is the New Zealand economist A.W. Phillips. In his work in 1958, he published the view that there is an inverse relationship between the rate of change in wages and unemployment in the British economy. A similar phenomenon was found in other countries, and in 1960 Paul Samuelson and Robert Sollow used Phillips' work and replaced the rate of wage change with inflation – a well-known relationship that assumes that unemployment is low when inflation is high and vice versa.

In the following years, many economists in industrialized countries took this relationship as a rule. One consequence was that governments began to use this to control

unemployment. Usually, „reasonably" high inflation rates were tolerated in order to reduce unemployment. Over time, however, it became increasingly clear that this relationship was far from absolutely right rule.

Economists Edmund Phelps and Milton Friedman argued that any such relationship is only effective in the short term. Once people conclude that inflation will rise, monetary policy will not be able to permanently keep unemployment below its balance (naturally) level. This claim was later confirmed when, in the 1970s in the United States, rising inflation did not deliver the expected reduction in unemployment that the Phillips curve "promised". On the contrary, higher inflation has merged with higher unemployment - a combination known today as stagflation (Černohorská, Černohorský, 2007, p. 2).

Although Phelps-Friedman's view turned out to be correct, the possibility of a short-term relationship between unemployment and inflation still remained. This idea led to further research and development of the extended Phillips curve in a very short period, when inflation is moving in the opposite direction in relation to unemployment and vice versa. The example of the short-term Phillips curve is given in the figure 3. In this figure, an economy can either experience 3% unemployment rate at the cost of 6% inflation. Another situation is –increasing unemployment to 5 % to bring down the inflation level to 2 %.

Figure 3 Short-term Phillips curve

Source: Lumen Learning, 2020

The Phillips curve is still used by a large number of economists and financial institutions, who try to use the Phillips curve to predict the rate of inflation, respectively verify the inverse relationship between inflation and unemployment. However, the long-term relationship between inflation and unemployment does not seem to work in recent history.

The reasons for the invalidity of the long-term Phillips curve are in many factors. Accroding to Černohorská and Černohorský (2007, p. 4) the main factors of this fact are:

- oil shocks,
- changes in the flexibility and structure of the labor market (productivity growth due to information revolution, outsourcing in the global economy, trade union expansion, etc.),
- the introduction of inflation targeting in monetary policy and the related development of inflation expectation.

All these significant changes invalidate the Phillips relationship in the long term conditions and are reflected more in the shifts in the short-term Phillips curves.

3.7.4 Average wages

Unemployment and employment levels are significantly affected by wage policy. Higher wages are, of course, more attractive to employees, and wage growth theoretically results in an increase of labor demand. If there is a substitution effect, when the employee prefers free time to work, the demand for work will not grow. Wage increases will not be able to attract a workforce when there are very few free labor resources on the market ready to start work.

High wages are disadvantageous for employers, especially if the growth of these wages is faster than the growth of labor productivity (Dvořáček, 2012, p. 31). This is reflected in rising level prices, reducing the company's investment opportunities and hampering its further development.

The situation with wages and its impact on employment and unemployment is illustrated by important indicators such as average gross monthly wages and minimum wages.

The average gross monthly wage represents the share among, excluding other personnel costs, per one employee of the registered number per month. The limit includes basic wages and salaries, allowances and supplements to wages or salaries, bonuses, compensation between and salaries, etc. Gross wages are wages before deductions for health insurance and social security contributions, advance payments of personal income tax and other legal or other deductions (Dvořáček, 2012, p. 31).

The minimum wage is the lowest amount of money stipulated by law, which belongs to the worker for the work performed, regardless of his job classification, performance, type of work performed, employer's ability to pay, etc. (Dvořáček, 2012, p. 31).

4 Practical Part

4.1 Analysis of the Russian economy

Russia is one of the ten largest economies in the world. According to 2019 data (World Bank, 2021), it ranks 11th in terms of economy (GDP value, current USD) and 9th in terms of population. At the same time, in terms of GDP per capita (current USD), calculated at purchasing power parity (PPP), Russia occupied only 48th place in 2019, which corresponds to countries with an average income level. Countries such as Malaysia, Coatia, Greece, Latvia, Turkey and Kazakhstan have a comparable level of per capita income.

The dynamics of main GDP indicators in the selected 10-year period is illustrated by the figures 4, 5 and 6. Further, these indicators will be considered in more detail, in the context of other indicators and development factors.

Figure 4 GDP bln. USD (current prices), Russia, 2009-2019
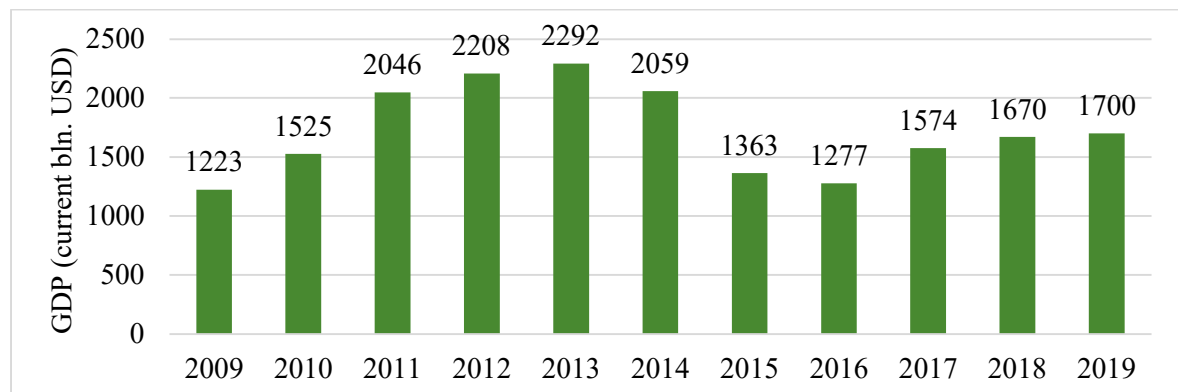
Source: own creation using data from World Bank, 2021

Figure 5 GDP growth (annual %), Russia, 2009-2019
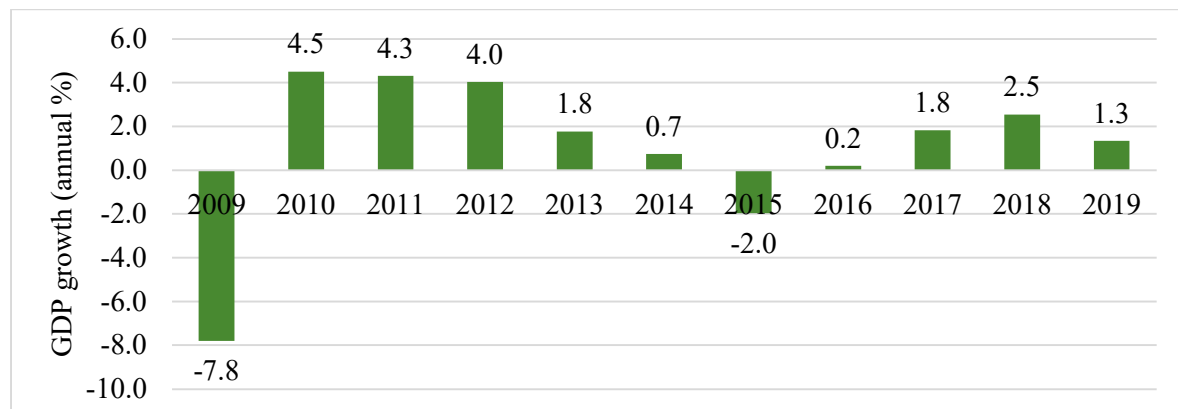
Source: own creation using data from World Bank, 2021

Figure 6 GDP per capita, PPP (current prices), Russia, 2009-2019
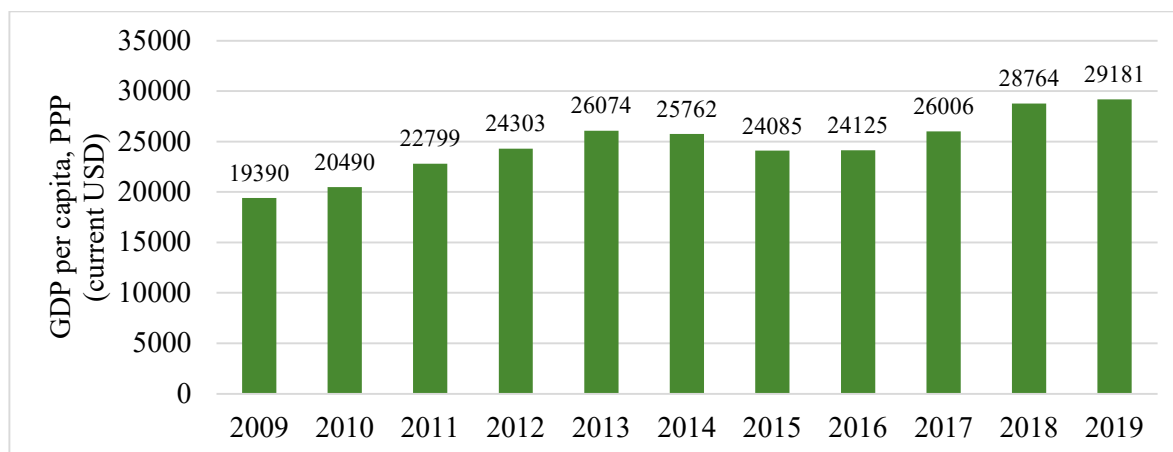
Source: own creation using data from World Bank, 2021

4.1.1 Natural resources in Russian economy

Russia has large reserves of natural resources – especially coal, natural gas, oil, timber, rare earth metals. Russia ranks first in the world in terms of value of these main natural resources – 75 trillion USD in 2019 according to Statista (Garside, 2020).

"*Russia holds the world's largest natural gas reserves, the second largest coal reserves, and the eighth largest oil reserves. It is one of the largest producers and exporters of natural gas, the third largest oil producer, and the second largest oil exporter.*" (World Bank, 2019).

In addition, Russia possesses significant resources of fresh water and ranks third in the world after India and the United States in terms of arable land and first in the world in terms of forest land (Yasin, 2019, p. 17).

The high importance of natural resources for the Russian economy is confirmed by the relatively high indicator of total natural resources rents – according to World Bank (2021) it was 15,5 % of GDP in 2018, 34th in the world in terms of this indicator. "*Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents.*" (World Bank, 2021). Oil rents made 10 % of Russian GDP in 2018, which indicates specifically the large role of oil in Russian economics. Natural gas rents made 3,7 % of Russian GDP in 2018. The dynamics of these indicators are shown in figure 7.

Figure 7 Oil, natural gas and total natural resources rents (% of GDP), Russia, 2000-2018
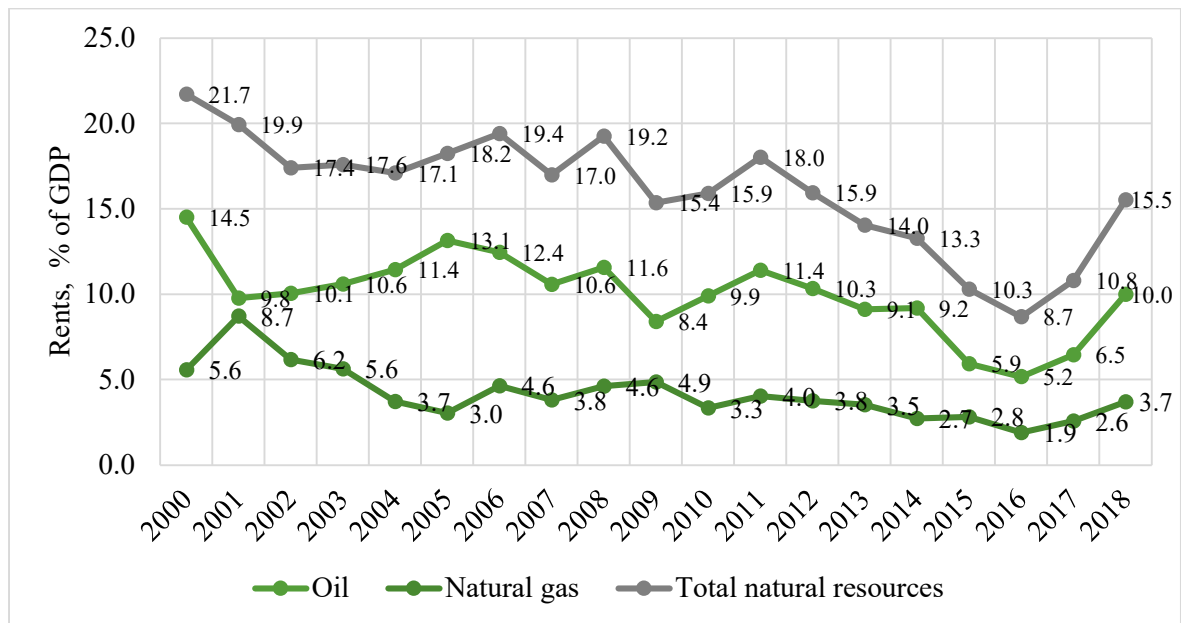
Source: own creation using data from World Bank, 2021

The given data contain a well-known paradox: having a high potential even in comparison with developed countries in terms of reserves of natural resources and human capital, Russia, nevertheless, significantly lags behind in terms of living standards population.

Natural resources for Russia are, on the one hand, wealth, and on the other hand, a risk that creates a certain structure of a highly dependent economy. The influence of any external changes – crises in foreign markets, fluctuations in the exchange rate, falling world prices on stock exchanges – especially seriously damage the dependent economics.

4.1.2   Economic situation before the world crisis of 2008-2009

Before the crisis, by 2008, Russia's budget actually comprised 65-70% (directly or indirectly) of revenues from hydrocarbon exports (Movchan, 2016). Direct rents form natural resources made 19,2 % of Russian GDP in 2008. The correlation of GDP growth rates, federal budget revenues and reserves with changes in oil prices reached 90–95% (Movchan, 2015).

Against this background, the Russian ruble was significantly overvalued due to the massive inflow of petrodollars – in 2006-2007 its market rate was significantly higher than

the estimated inflation rate. The authorities, in their quest to control financial flows, worsened the investment climate. This caused a reduction in the flow of investment, a rise in the cost of money, a decrease in entrepreneurial activity and a loss of financial and human capital.

Despite the growth in oil revenues (which are reflected by the oil rents indicator in 2005-2008, see figure 7), the Russian economy has degraded in many sectors. The situation at enterprises was the more difficult, the more attractive social policy the state built. Raising salaries and at the same time raising taxes put many enterprises in a difficult position. The state budget was also overloaded with various projects and reforms, defense and security spending, and high levels of corruption. Ultimately, after the fall in oil prices in the second half of 2008, Russia is left with an undiversified, monopolized and corrupt economy, in which there are no factors and resources for growth. In this situation, Russia faced the global crisis and faced its consequences.

4.1.3 World crisis and its effects

According to the World Bank (2009), the 2008 Russian crisis began as a private sector crisis triggered by excessive loans of private sector in terms of a deep triple shock: in terms of trade, capital outflows and tightening external loans conditions.

The impact of the global crisis on Russia was stronger than on the economies of other countries due to 3 reasons: the American financial catastrophe, which negatively affected all markets and financial systems of developing countries; the fall in oil prices with a significant dependence of Russia on its exports; political mistakes of the Russian leadership.

Another negative factor in was, according to a number of analysts and economists (Matews, 2008; Newsweerl, 2009), the armed conflict in South Ossetia in August 2008. After the conflict in Georgia, the Russian stock exchange experienced one of the most powerful drops in quotations in the past decade. Investors fear most of all that a new era of military confrontation between Russia and its neighbors will begin.

Despite these difficult economic and social conditions, the Russian Federation's fiscal policy and large state financial reserves enable it to better cope with the negative

effects of the crisis than before. Faced with the crisis effects on economic growth in a situation of significant initial budget surpluses and large reserves, the Russian Federation took enough effective fiscal anti-crisis measures (World Bank, 2009). In 2008, the budgetary anti-crisis measures amounted to 1 089 billion rubles (2.6% of GDP), of which 785 billion RUB were allocated to strengthen the financial sector, 304 billion RUB – to support the real sector of the economy (Prime, 2019).

A number of measures have been taken in the financial sector to support the Russian financial system: support for systemically important banks capable of providing liquidity to the banking system

The problem is that the worsening social impact of the crisis – increased unemployment and poverty rates – requires more attention in the short term to social protection measures. In addition, investments to the most pressing infrastructure sectors and in the small and medium-sized enterprise sector will help bring economic growth back to life and diversify the economy over the long term.

Despite the country's fairly effective policy, during the years of the crisis, the economic recession in Russia became very significant. So, if in 2006-2007 GDP growth exceeded 8 percent, then in 2008 it amounted to 5,2 percent, and in 2009 the decline was almost 8 percent. Structural problems accumulated, and since 2013, the economy began to slow down again (it was shown by the GDP growth indicator in figure 5). The foreign policy of the country's leadership led to an aggravation of the situation and a financial downturn.

4.1.4 Oil crisis and political conflicts in the period 2014-2015

In 2014, the Russian economy experienced two shocks. In addition to the structural crisis that began in 2012, Russia had to go through two shocks that had a significant impact on the economy.

The first of the shocks is due to Russia's integration into the world economy through the export of natural resources, and, accordingly, its dependence on the cyclical nature of world commodity markets. From July to December 2014, oil prices more than halved, resulting in a shock caused by the deteriorating foreign trade conditions for Russia. By the

end of December 2014, the oil price dropped from 110-115 USD to 56,5 USD per barrel, with a subsequent decline to 45,13 USD. This decline was primarily due to the rapid increase in oil production from shale and other hard-to-reach rocks in North America, as well as the refusal of the OPEC countries to cut production. Figure 8 shows changes in oil prices on world markets in a given period.

Figure 8 Oil prices (Brent), 2009-2021

Source: FRED, 2021

The ruble depreciated by 46 % against the US dollar, negatively affecting already weak business and consumer confidence. The figure 9 shows the changes in exchange rate. As a result of the tightening of monetary policy, the cost of lending increased, which further reduced domestic demand.

Figure 9 Exchange rate USD/RUB, 2009-2021

Source: from Kurzy.cz, 2021

A second, more specific shock was caused by geopolitical tensions that erupted in March 2014 and triggered economic sanctions. The main reason for the emergence of the financial crisis was not global trends, but local anti-Russian sanctions, which had a negative impact on Russian corporate debt and caused a significant capital outflow. The deterioration of the situation in Russia in 2014 was largely caused by geopolitical changes, mainly the conflict in Ukraine, the entry of Crimea into Russia, the ensuing Western sanctions and the complication of relations with foreign business and political partners. Against the backdrop of tensions, the perception of investment in Russia as more risky has not only increased, but the cost of foreign loans for Russian banks and enterprises has also increased significantly (World Bank, 2015, p. 6).

All these factors caused a significant depreciation of the ruble against foreign currencies, and then led to an increase in inflation, a decrease in consumer demand and real incomes of the population, an economic recession, and an increase in the level of poverty.

Despite the economic turmoil, Russia has managed to avoid a recession. Economic growth was 0,6 % in 2014, driven in part by a growth pass-through of 1,3 % in 2013. One of the favorable factors is associated with the offsetting effect of the decrease in imports, which helped to mitigate the shock caused by the deterioration of foreign trade conditions.

Sanctions had mixed consequences for the Russian economy. They reminded that many things Russia needs to do on its own. Import substitution programs have started working, perhaps not so effectively, but they still allowed some sectors of the economy to get an impetus for development. The most effective were, of course, food anti-sanctions: in particular, because they were accompanied by state support of a domestic producer. The production of pork, poultry, cheese, butter and other products increased significantly. In the financial sphere, the ban on lending to Russian banks and companies in Western banks has sharply reduced the access of Russian businesses to "cheap" money. Russian business began to look for alternative ways and enter Asian financial markets. At the same time, a significant weakening of the ruble and trade restrictions gave a small boost to a number of manufacturing industries (World Bank, 2015, p. 6). Next figure 10 shows the changes in the country's exports and imports.

Figure 10 Export and import (bln. USD, current prices), Russia, 2009-2019
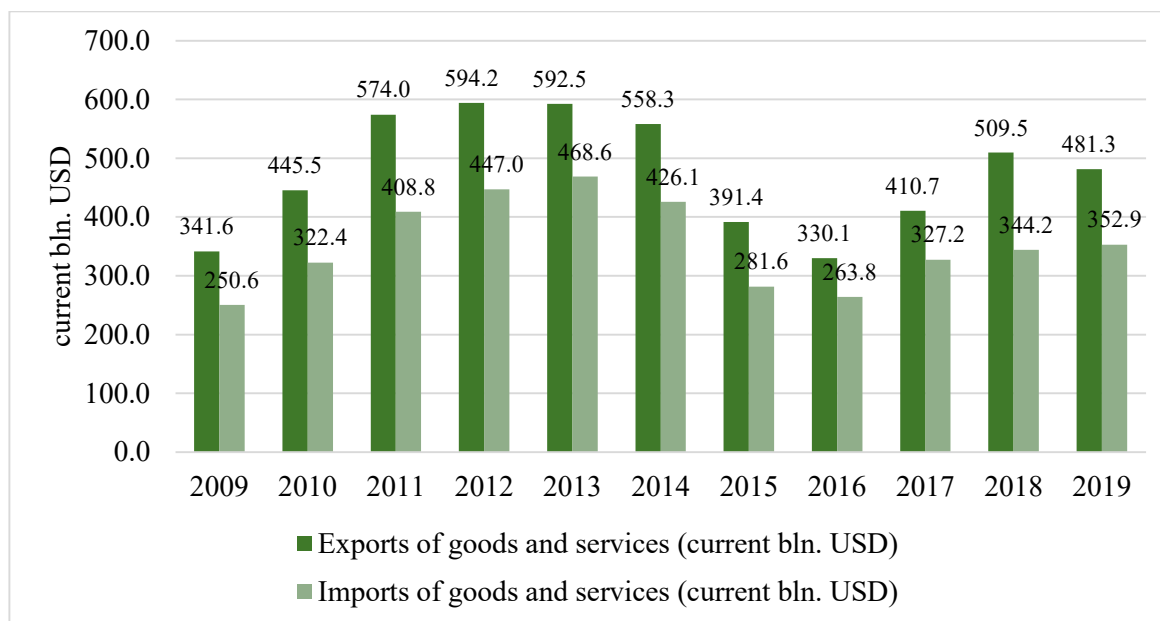
Source: own creation using data from World Bank, 2021

But, from own point of view, there is still more damage from sanctions. The main problem was the restrictions on the export of equipment and technologies to Russia. So the sanctions will have the most long-term and negative impact on the energy sector, as the most dependent on imported technologies and equipment. Because of the sanctions, Russian companies are already in fact unable to increase oil production, to explore for new reserves. Sanctions also hinder the development of other key sectors of the Russian economy – banking, steel, engineering. Foreign investors have lost their interest in investing in these industries, and it has become almost impossible for Russian companies to buy advanced foreign technologies and equipment. Restricted access to technology in general threatens to lag in the development of Russian industry.

4.1.5 Russian economy in the modern period

In 2017, the economy of the Russian Federation officially came out of the crisis. GDP reached 1 574 billion USD (compared to 1 277 billion USD in 2016), the growth rate of GDP was 1,8 % in 2017 (compared to 0,2 % in 2016). Concerns, however, were caused by a slowdown in industry, as well as a decline in real incomes of the population and record low inflation – 3,7 % in 2017 (figure 11).

Figure 11 Inflation (consumer prices, aanual %), Russia, 2009-2019
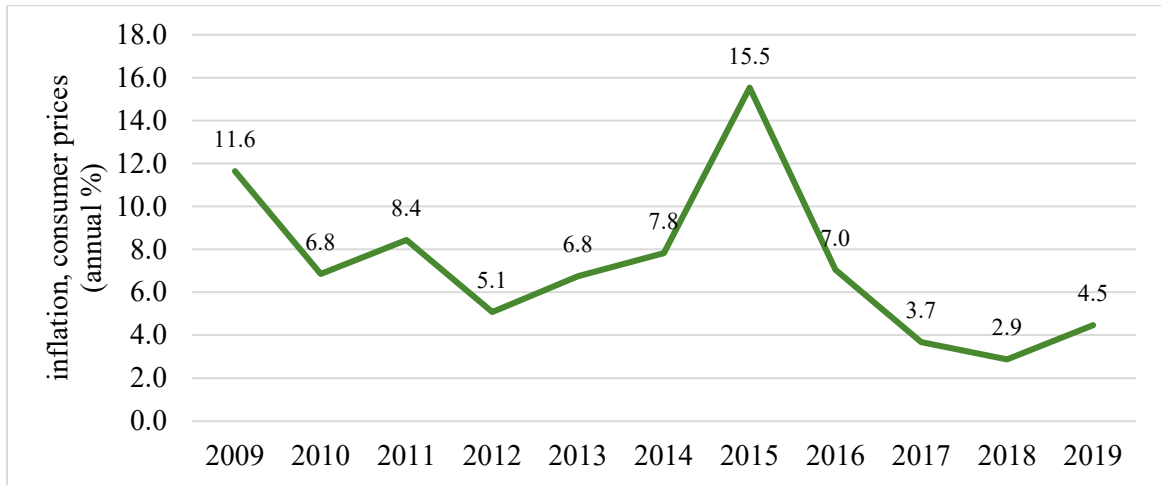
Source: own creation using data from World Bank, 2021

In 2018, Russia's GDP growth increased on 2,5 %, which exceeded expectations. GDP growth was noted especially in such industries as mining, transportation and storage, construction, financial and insurance activities.

How the growth of the economy affected the life of the population is a question. The increase in tariffs, utilities, property taxes was unambiguously negatively perceived. The negative impact was definitely from the new Western sanctions imposed by the United States in 2018 in connection with the situation in Ukraine; accusations against Russia of violating the legislation on the non-proliferation of weapons of mass destruction; for the war in Syria, the use of chemical weapons; in connection with the case of the poisoning in British Salisbury of ex-GRU colonel Sergei Skripal and his daughter; in connection with the construction of the Crimean bridge; with interference in the US elections, for cyberattacks (Prime, 2019).

The fundamental difference of the latest sanctions is that some of them no longer imply just containment of Russia and restriction of Western exports to Russia. New sanctions have the goal to displacement of Russian companies from the American market and, if possible, from the world market.

All these events logically led to another jump in food prices, an increase in utility tariffs, and an increase in taxes. Due to the increase in value added tax (VAT), tariffs for housing and communal services have increased.

Nevertheless, there was one fundamental difference in 2016-2018 compared to 2014-2015: oil prices were not decreasing, but, on the contrary, have increased to a relatively high level (60-80 USD per barrel in 2018). This helped to stabilize situation in the Russian economy and the fact of new sanctions was not perceived as threatening.

4.1.6 COVID-19 effects

The COVID-19 pandemic has plunged the global economy into its deepest recession since World War II. The pandemic is expected to have a lasting and profound impact on productivity and potential growth as investment activity continues to weaken and human capital formation slows down due to prolonged school closures and lingering unemployment (World Bank, 2020, p. 11).

The second half of 2020 saw an increase in global prices for virtually all commodities, following a sharp drop in prices at the beginning of the year due to the COVID-19 pandemic. Energy prices, especially oil, are still well below pre-crisis levels, and oil consumption continues to be affected by travel restrictions imposed by the pandemic. In contrast, prices for most non-energy goods rose above pre-crisis levels amid renewed growth in the global economy and, above all, in China. For Russia, the export of energy resources is of particular importance and in 2019 accounted for more than 60 % of the country's total export value (World Bank, 2020, p. 11). Russia's GDP contracted in 2020, but the gradual rise in oil prices since March 2020 is a factor that increases optimism in Russia's economic forecasts.

4.1.7 Resume of the Russian economy analysis and modern trends

The state of the Russian economy is paradoxical. The country has the richest natural resources, large territories and sufficient labor resources. The country's strong dependence on the export of resources and insufficient diversification of the economy, the tense situation in foreign policy – these are all factors that negatively affect the economy and the living standards of the population in last years. All this is reflected in the employment and unemployment of the population. Another factor influencing the country is various crises, which are known to be cyclical phenomena. They cannot be avoided, but their impact on the life of the country can be mitigated by taking adequate and timely measures.

The global crisis of 2008-2009 was a warning to Russia of the task of diversifying the economy. This task was proclaimed by the authorities back in the early 2000s, but has not been solved. The economy's dependence on energy prices has not weakened in the least. But the decline of the Russian economy for the average person was relatively painless, thanks to the measures taken by the government in the financial and manufacturing sectors.

In 2014, structural problems in the economy were imposed by sanctions due the events in Ukraine, and the fall in oil prices. All this led a real currency crisis, when the ruble at some point devalued by more than two times. As a result of the efforts of the government and the Central Bank, the situation with the exchange rate was somewhat straightened and stabilized. But this led to tension in financial markets and, in fact, stopped lending to the real sector.

At the moment, the Russian economy is still tied to oil and gas exports, which is the basis for the formation of its revenue. In addition, the new Western sanctions are now aimed at ousting Russian companies from world markets. At the same time, it must be admitted that over the years that the Russian economy is under sanctions from the United States and the EU, it has tempered quite well. The country had to use its internal resources to the maximum, and the economy became more balanced.

Comparison of the structure of Russia's GDP according to the latest data from 2020 with its state in 2008 (table 1) shows that the raw material nature of the Russian economy has practically not changed during this time. If in 2008 the share of the mining industry in the GDP of the country was 9,3 %, then in 2018 it reached the maximum share (13,4 %). Then its share decreased to the 9,8 % in 2019, almost the same level as in 2008.

At the same time, the share of manufacturing industries decreased from 17,5 % in 2008 to 14,7 % in 2020. The share of construction has also decreased. At the same time, the contribution of the public administration sector, military security and social security has significantly increased (see table 1) which reflects the trend towards the growth of the public sector.

In the structure of GDP from 2008 to 2019 the share of one of the main industries - wholesale and retail trade and repair services – also dropped significantly. However, this is

largely due to a change in the accounting methodology for this sector of the economy (repair services for personal items and household goods were excluded, and only services for the repair of vehicles and motorcycles were left).

Table 1 Share of main economic sectors in Russia's GDP, comparison of 2011 and 2020,%

Economic sector	2008	2011	2014	2017	2020	Change, 2020-2008
1. Manufacturing industries	17,5	13,4	13,1	13,7	14,7	-2,8
2. Wholesale and retail trade; repair of motor vehicles and motorcycles	20,3	17,4	16,3	14,1	13,0	-7,3
3. Real estate activities	11,3	17,3	10,6	10,0	10,4	-0,9
4. Natural resources mining	9,3	9,5	9,1	10,9	9,8	+0,5
5. Public administration and military security; social Security	5,4	6,9	8,0	7,8	8,4	+3,0
6. Transport and storage	9,3	7,6	6,2	7,0	6,5	-2,8
7. Building, construction	6,3	7,6	6,8	6,0	5,7	-0,6

Source: own creation using data from Rosstat, 2021, ICSS, 2020

The main risk factors for the Russian economy now are:

- deterioration of the geopolitical situation;
- a decrease in oil prices (which will affect a decrease in budget revenues);
- lack of structural reforms in the economy;
- pressure on the budget and crash of the small business in connection with the COVID-19 pandemic.

4.2 Population and labor force of Russia

Russia has a very small population relative to the territory that the country occupies (an area of more than 17 million km2, which makes it the first country in the world in size). According to Rosstat, the population of Russia was 145.9 million in 2021, which corresponds to an approximate population density of 8 people per km2. For comparison, the United States, the third largest country in the world (with an area of over 9.6 million km2), has a population density of 30.7 people per km2 (StatData, 2021).

The statistics of the population of Russia during the last decade are given in the table 2. According to the own calculations, changes in the population indicator (growth of

indicator relative to the previous year), the population of Russia is increasing, but at a very low rate. On the contrary, the number of people aged 15 and over is decreasing. So, it is possible to conclude that the population is growing mainly due to the birth rate.

Table 2 Population in Russia, 2010-2021

	Total, mil. people	Change, %	15+, mil. people	Change, %
2010	143,48	-	122,06	-
2011	143,70	0,16%	121,91	-0,13%
2012	143,99	0,20%	121,61	-0,24%
2013	144,33	0,23%	121,24	-0,31%
2014	144,66	0,24%	120,85	-0,31%
2015	144,99	0,22%	120,52	-0,28%
2016	145,28	0,20%	120,16	-0,30%
2017	145,53	0,18%	119,87	-0,24%
2018	145,73	0,14%	119,63	-0,20%
2019	145,87	0,09%	119,39	-0,20%
2020	145,93	0,04%	119,14	-0,21%
2021	145,91	-0,02%	118,94	-0,17%

Source: own creation using data from Rosstat, 2021

Population growth is threatened by the impact of past demographic developments - as experts say by the "echo of the 90s" (Raksha, 2018). In the 90s, almost 2 times fewer children were born in Russia than in the 80s. Now children of the 90s are at the age when they actively create families and give birth to children (20-35 years old). Accordingly, there are few women of childbearing age in Russia at present.

Labor force in Russia

The share of the labor force in the total population of Russia was 61,8% in 2019, according to the World Bank (2021). In 2019, the rate of decline in the labor force accelerated significantly: in Q1 it decreased by almost 0.8 million compared to the corresponding quarter of the previous year. For the entire 2018, this indicator decreased by only 0,1 million people. As a result, the number of economically active citizens (excluding the Republic of Crimea and the city of Sevastopol) returned to the 2005 level.

The decline in the labor force itself is not unexpected, since it has been going on since 2016, and thisdynamics is in line with all-Russian demographic trends and the decline in the number of the working-age population. Since 2016, the share of the labor

force has been declining: in 2016, it reached its maximum values in the period 2010-2019 and stood at 62,8 %. Diagram shows labor force and employment rates in Russia in 2010-2020.

Figure 12 Labor force and employment rate, %, Russia, 2010-2020

Source: own creation using data from World Bank data (2021)

It can be assumed that at present the limit of economic activity has been reached for the population at the main working ages. Further growth is possible mainly only through more active involvement of the older population in the labor market.

4.3 Analysis of the unemployment in Russia

The problems of employment management and unemployment regulation in Russia have existed since the early 1990s, when the first steps towards market reforms were made. Registered unemployment became a reality in 1992, although its size and nature of dynamics in the history of modern Russia are different. In the early period of market reforms, many state institutions and factories were closed in Russia, which caused an increase in the number of unemployed. The unemployment rate rose from 5,9 % in 1992 to 13,3 % in 1999. Since 2000, the Russian economy has entered a phase of sustainable growth and the situation on the labor market has somewhat stabilized. The implementation of a number of large projects has led to the creation of new jobs. Until the global economic crisis of 2008-2009, the situation on the Russian market was improving.

The global crisis had a strong impact on the Russian economy, including unemployment, which has grown significantly in a short period of time. The curve of the unemployment rate in Russia in 2010–2020 (figure 16) clearly demonstrates that a significant increase in the number of unemployed fell on the period after the economic crisis. It is obvious that in Russia this process was more expressive than the average in the world.

In 2009, the Russian Government adopted a number of new measures in the field of employment related to the organization of public works, retraining of citizens who have lost their jobs, and lending to those wishing to start their own business. These actions have yielded a certain positive result. So, in the period from 2010 to 2012, there was a significant decrease of the unemployment rate – from 7,4 % in 2010 to 5,4 % in 2012.

The dotted lines on the figure show the trend of the index. It is obvious that in Russia there is a more pronounced decrease in the unemployment rate than in the world in the period 2010-2019. The unemployment rate in the world was not as high after the crisis as in Russia, and therefore the decline was not so significant.

Figure 13 Unemployment rate by ILO (15+), %, Russia and World, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
World	5.9	5.8	5.8	5.8	5.6	5.6	5.7	5.6	5.4	5.4	6.5
Russia	7.4	6.5	5.4	5.5	5.2	5.6	5.6	5.2	4.9	4.6	5.7
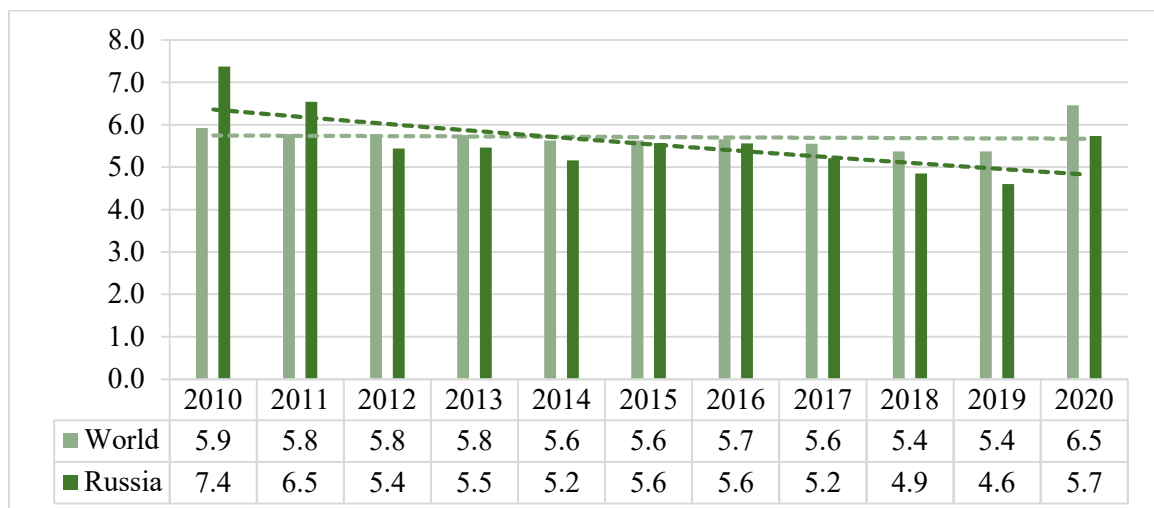
Source: own creation using data from ILO, 2021

Since 2010, unemployment began to decline and kept to a level 5 % since 2012. Thus, the crisis trends caused by the fall in oil prices in the second half of 2014 and the imposition of the sanctions did not significantly affect the Russian labor market. The unemployment rate in Russia was 5,2 % in 2014 and 5,6 % in 2016.

In May 2014, Russia experienced also a historic decline in unemployment. Some economists associate this with the influence of the seasonal factor, while others with an increase in production and growth in exports and imports. These seasonal changes did not affect the annual unemployment rate.

In 2015-2016, the unemployment rate tended to grow due to staff reductions and the beginning of a new crisis situation in the country. In 2017, there was a decline in unemployment, which continued in subsequent years – in 2019 it reached a record low of 4,6 %. For comparison, the average indicator in the world in 2019 was higher than in Russia – 5,4 %. The increase in the indicator in 2020 signals about logical problems in this region due to the new crisis.

Considering the problem of unemployment in Russia in the range of 2012-2020, it can be noted that in Russia the unemployment rate takes an acceptable value but does not exceed the theoretical unemployment rate of 4-5%.

4.3.1 Comparison of Russian unemployment rate with world average indicator

The ILO report states that in 2019, the number of unemployed in the world reached 188 million people (the global unemployment rate was 5,4 %). Also there were 165 million people, that are employed but want to work more hours (time-related underemployment) (ILO, 2020, p. 12). Compared to 2015, the number of unemployed has declined by 9,1 million and the global unemployment rate became lower (5,8 % in 2015) (ILO, 2020, p. 12). According to data from November 2020 the unemployment rate increased to 6,5 % (compared to 2019) (ILO, 2021).

As for Russia, according to the ILO (2021), the unemployment rate in the country was 4,6 % in 2019 and 5,7 % in November 2020. 460,3 thousands people were unemployed in Russia in 2019, compared to 2015, it was an decline of 52,2 thousands people.

Based on this comparison, it can be argued that the same trends in unemployment dynamics are evident in Russia as in the World. In the period 2015-2019, unemployment decreased, but increased significantly by the end of 2020, which was probably related to the coronavirus crisis.

According to Rosstat, unemployment in Russia in 2020 reached 5,7 %, that is, 0,9 % more than in 2019. Compared to the world average of 6,5 %, this is still the best indicator. In particular, unemployment in France, according to Eurostat, rose from 7,6 % in February to 8,7 % in April, in Spain at the peak of the crisis in April it reached 14,8 %. In the United States, the level of 13 % was reached, in Lithuania and Latvia, neighbouring Russia – 9 % and 8,6 %, respectively. At first glance, the situation on the Russian labor market does look relatively good.

However, the registered unemployment in employment centres in Russia reached almost 2,5 million people – a threefold increase in May 2020 compared to March 2020. According to experts (Aptekar', 2020), the usual ratio of the official unemployed to the total number is 1:4, but now it could decrease due to crisis to 1:3. But then the total number of unemployed can be estimated at 7,5 million people, that is, the unemployment rate will be above 10 %.

There are also sociological measurements of unemployment: according to the April poll by Romir and Gallup, 12 % of Russians lost their jobs, according to the May poll by the Higher School of Economics – 9,8 % (Aptekar', 2020). There are known situations when employers and statistics have learned to curb unemployment by introducing a shorter working week and administrative leaves.

It is also important to conduct a more detailed study of unemployment – in the context of demographic specifics, regional structure, seasonality and duration of this phenomenon.

4.3.2 Oil prices and unemployment rate

Due to the fact that the export of raw materials plays an important role in the economy of modern Russia, it can be assumed that the unemployment rate largely depends on oil prices: when prices fall, unemployment rises, and vice versa. This explains the sharp increase in the number of unemployed in 2009 and the subsequent rise in employment.

Regression analysis of data – annual growth indexes of world oil prices and unemployment rate in Russia in the period 2009-2020 (see Appendix A), indicates the existence of a statistically significant relationship (Significance F = 0,012, less than P-

value = 0,05). The correlation coefficient is high (multiple R = 0,721), and based on the coefficient of determination (R Square = 0,520) it is stated, that the model has average reliability.

The regression line is: Y = -0,29x – 0,0272. It can be used to calculate the assumed measure of unemployment (with a 52 % probability) at certain oil price levels. For example, according to the forecast of the rating agency Fitch Ratings (SwissInfo, 2021), the Brent brand in 2021 will cost an average of 58 USD per barrel. In this forecast, prices are expected to be higher than in older forecasts, which is associated with a stronger increase in demand and OPEC+ policies supporting the market. The significant improvement in the forecast is also due to the economic recovery in the second half of 2020 and the much less significant impact of new lockdowns and other restrictive measures. "*We expect that OPEC+ will continue to actively manage supply, at least in the medium term, and that excess oil reserves will quickly normalize,*" Fitch said in a statement (Swiss Info, 2021).

Based on this forecast, the calculations of the unemployment rate in Russia were made (table 3). The annual growth rate was put to the regression equation (as an X value). The Y calculation determines the annual growth rate of unemployment. If the growth rate in the new period (n) is known (Y_n) and the value of the unemployment rate from the previous year (UR_{n-1}), the unemployment rate in the new period can be calculated as following: $UR_n = UR_{n-1} + UR_{n-1} * Y_n$

The calculation assumes that in 2021, the unemployment rate should fall to 4,94 % due to a significant rise in oil prices. An increase in the price of oil by 0,38 percentage points will cause a decrease in unemployment by 0,14 percentage points.

Table 3 Estimate of the unemployment rate in Russia based on the oil price forecast

	Oil price (Brent)		Unemployment rate (UR)	
n	USD per barrel	X_n – Annual growth, %	Y_n – Annual growth, %	UR_n - Annual average, %
2020 (known data)	41,96	-0,35	0,25	5,7
2021	58	0,38	-0,14	**4,94**

Source: own creation based on the results of the regression analysis (appendix A) and using data Fitch (SwissInfo, 2021) and ILO (2021)

4.3.3 GDP and unemployment rate

The analysis of the data (appendix B) confirms the implementation of Okun's Law for Russia in the period 2010-2020. Regression analysis of the data – the growth rate of Russia's GDP and the growth rate of unemployment confirms the high reliability of the model (R Square = 0,855). The correlation coefficient is very high (multiple R = 0,925), which means that the dependence between the selected variables is very strong. The F-test indicates the statistical significance of the model when using the 0,95 significant level (F = 0,0005 < P-value = 0,05).

The regression line is: $Y = -0,0427x – 0,0341$. The calculation of the unemployment rate, which with a probability of 85,5 % will be in Russia under conditions of some growth or decline in GDP is performed in the table 4. According to the latest forecast of the International monetary fond (IMF) GDP growth will be 3 % in 2021 and 3,9 % in 2020. 3 % GDP growth 3will cause a 0,16 % drop in unemployment – to the 4,78 % level. 3,9 % GDP growth will contribute to a further decrease in unemployment (-0,2 %) to the level of 3,82 %.

Table 4 Estimate of the unemployment rate in Russia based on the GDP forecast

n	X_n – GDP, annual growth, %	Unemployment rate (UR)	
		Y_n – Annual growth, %	UR_n - Annual average, %
2020 (known data)	-3,1	0,25	5,7
2021	3	-0,16	4,78
2022	3,9	-0,20	3,82

Source: own creation based on the results of the regression analysis (appendix B) and using data from IMF (Kommersant, 2021), ILO (2021)

4.3.4 Export and unemployment rate

Export is another important markeconomic indicator that can influence the labor market. Employment and unemployment in a country that is highly export-oriented will likely depend on the state of international trade. Russia is not a country that has a very open economy: the share of exports in Russia's GDP was 28,3 % in 2019, for comparison, this index is on average for the European Union – 47,1 % (World Bank, 2021). However,

natural resources and manufactured goods occupy a significant place in Russian exports, and the mining and production of these products provides jobs for many people. The decrease in exports due to the fall in oil prices, as well as sanctions, may be associated with an increase in unemployment.

The World Bank data on annual export growth in Russia (2010-2019) (appendix C) are used for the analysis. The results of the regression analysis show that the created model is not reliable (R Square = 0,011) and the weak dependence (Multiple R = 0,104) is not statistically significant at the confidence level of 0.95 (Significance F = 0,775, more than P-value). The low explanatory power of the model is probably due to the use of annual data (it is possible that monthly or quarterly data can provide better results). So far, it can be concluded that annual data on export growth cannot be used to estimate the unemployment rate in Russia.

4.3.5 Inflation and unemployment rate

The relationship between inflation and the unemployment rate is described by the Philips curve, which has a declining shape in the short term (ie unemployment decreases with the increase in inflation and vice versa). The drawing of the Phillips cross according to data on inflation and unemployment in Russia in the period 2010-2019 (appendix D) shows the opposite relationship – with the growth of inflation, unemployment increases (Multiple R = 0,597). However, the reliability of this model is low (R Square = 0,357). The dependence is statistically significant when using P-value = 0,1. The inflation rate should not be used to estimate unemployment in Russia.

4.4 Structure of the unemployment in Russia

4.4.1 Regional structure of unemployment

Russia is distinguished by a high degree of uneven economic development in the territorial context. This unevenness is largely determined by the ensuring of natural resources, historically established infrastructure, natural and climatic conditions, the mentality of the population and other factors. If, for example, the export orientation of the regions producing oil and gas is specified geographically and geologically, then the

industrial orientation is often determined by the peculiarities of the country's development during the Soviet industrialization period of the 1930s. Due to the influence of many of the above factors, the existing specialization of regions also takes place – some are financial centers, and this sets their development vector, others are extractive, others are agro-industrial, and others are industrial. Of course, for the above reasons, complete similarity in regional development of the labor market is impossible. It is impossible to radically change this distribution between the regions in the foreseeable future. But it is necessary to reduce the existing imbalances in socio-economic development, which directly affects people's lives.

In Russia, acute unemployment is observed in regions of two types.

First, these are regions with a high natural population growth (Dagestan, Kalmykia, Tuva, Karachay-Cherkessia, Chechen, Aginsky Buryat autonomous districts, etc.). Here, a large number of young people constantly enter the labor market, while the number of jobs not only does not increase, but also decreases. Regions where a high natural increase is combined with a massive inflow of refugees (Ingushetia and North Ossetia) are distinguished into a special subtype. In regions of this type, unemployment also existed in the past in the form of significant agrarian population.

Secondly, depressed regions, i.e. with a predominance of the most critical industries, also have relatively high rates on unemployment. Regions, with dominated sectors, which are characterized by the largest reduction in production volumes, illustrate the unemployment growth. For example, in the Republic of North Ossetia-Alania, the largest decline was observed in the processing industry in 2019 (-17% compared to 2018) (RIA Rating, 2020, p. 7). Rising unemployment in the region reflects this decline: 11.1 % in 1Q 2019 and 14.1 % in 1Q 2020.

Production by type of activity "Water supply; water disposal, organization of waste collection and disposal, activities to eliminate pollution" at the end of 2019 decreased by 5.2 % in the Russian Federation. The fall was noted in 38 regions of the Russian Federation and the most significant occurred in the Republic of Dagestan (-27.9 %) (RIA Rating, 2020, p. 7). The unemployment rate in the Republic of Dagestan was 13.7 % in the end of 2018 and 14.2 % in the 2019 (Rosstat, 2020).

The opposite situation is also evident in the regions where important industries dominate – the unemployment rate is minimal there. For example, the Yamalo-Nenets autonomous district illustrates this situation very well. At the end of 2019, this region showed one of the largest increases in oil production in Russia, due to the development of new oil and gas condensate fields – Novoportovskoye and Vostochno-Messoyakhskoye (RIA rating, 2020, p. 5). According to Rosstat (2020), the unemployment rate in the Yamalo-Nenets district was 2.1 % in 2019 and only 1.8 % in the 1Q 2020 (only 5.7 thousand unemployed persons). This region is ahead of only Moscow in terms of unemployment in Russia (1.6 % in 1Q 2020 in Moscow) (Rosstat, 2020).

Mining, processing of precious stones and metals are also important brunches of Russian economy. The largest gold mining regions at the end of 2019 were the Krasnoyarsk district, the Magadan region and the Republic of Sakha (Yakutia). The first two regions experienced relatively low unemployment rates – just slightly above the Russian average: in the 4Q 2019 the rate was 4,2 % in Krasnoyarsk district and 4,6 % in Magadan region. The Republic of Sakha (Yakutia) became an exception to this dependence – the unemployment rate was 7,4 %, which was higher than the national average (4,6 %). However, other factors such as long distance, unpleasant climatic conditions and less development of the economic sectors other than gold mining are contributing to high unemployment in this region.

The pandemic and crisis in 2020 caused rising unemployment in all regions of Russia. The table contains data that illustrate the growth of unemployment in all regions of Russia during 2020. On average, unemployment in Russia in the 4th quarter of 2020 increased by 1.5% compared to the 1st quarter of this year. The largest growth was recorded in the North Caucasus district (+3,4 %), the smallest in the Far Eastern district (+0,6 %) and in the Southern district (+0,9 %). The leader in the unemployment rate is still North Caucasian region (14,8 % unemployment rate in 4Q 2020). The lowest unemployment rate has Central district (4,4 % in 4Q 2020), according to the Rosstat data (2020).

Table 5 Unemployment rate by regions, %, quarterly data, 2020

Federal district	1Q/20	2Q/20	3Q/20	4Q/20	Change 4Q-1Q/20
Central	2,9%	3,9%	4,4%	4,4%	+1,5
Northwestern	3,7%	5%	5,9%	5,5%	+1,8
South	5,3%	6,6%	6,4%	6,2%	+0,9
North Caucasian	11,4%	14,2%	15%	14,8%	+3,4
Privolzhsky	4,2%	5,5%	5,6%	5,2%	+1,0
Ural	4,4%	5,9%	6,2%	5,7%	+1,3
Siberian	5,8%	7,8%	8,3%	7,5%	+1,7
Far Eastern	6%	6,8%	6,5%	6,6%	+0,6
Russia (total)	**4,6%**	**6%**	**6,3%**	**6,1%**	**+1,5**

Source: own creation based on Rosstat data (2020)

According to Rosstat (2020) the highest rate of unemployment was in Republic of Ingushetia (26,6 % in 1Q 2020 and 31,2 % in 4Q 2020). High rates – above 10 % were also in 1Q 2020 in all other regions of North Caucasian federal district, except of Stavropol krai (4,6 %).

The unemployment rate became dramatically higher during the 2020 in some regions of the North Caucasian district as a whole: e.g. in the Chechen Republic it was already 21,0 % in 4Q 2020, while it was 13,3 % in 1Q 2020.

Unemployment of more than 10 % was outside the North Caucasus region only in two areas in Russia in 1Q 2020 – 11,9 % in the Altai Republic and 11.9 % in the Tyva Republic, both in the Syberian Federal District. In the end of 2020, the unemployment rate became 16,4 % in the Altai Republic and 18,2 % in the Tyva Republic. Two regions in the Dar Eastern district also crossed the 10%-rate: the unemployment rate was 10,7 % in The Republic of Buryatia and 10,1 % in Zabaykalsky Krai in 4Q 2020.

Comparing the growth of unemployment in other regions of Russia, it can be concluded that under the influence of the crisis, the problem of unemployment deepens in these regions, which are already affected by unemployment.

4.4.2 Youth unemployment

Youth unemployment is a chronic disease that plagues many countries. It is known, that it practically did not exist in the USSR. The study in universities was followed by the distribution of graduates to work – three years of not only compulsory work, but also significant legislative protection of the young specialist, his rights and interests. In post-Soviet Russia, the situation did not cause much alarm in the beginning. Currently, the situation with youth unemployment in Russia is unsatisfactory.According to ILO (2021), the unemployment rate among young people (15-24 years old) was 15,6% in 2020 (3.5 times higher than the total unemployment rate in 2020 in Russia).

Figure 14 Youth unemployment rate by ILO (15-24 years old), Russia, 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Youth unemployment (15-24 yeard old), %	17.1	15.5	14.9	14.2	14.0	16.4	16.7	16.5	17.1	16.1	15.6
Unemployment, total (%)	7.4	6.5	5.4	5.5	5.2	5.6	5.6	5.2	4.8	4.6	4.4
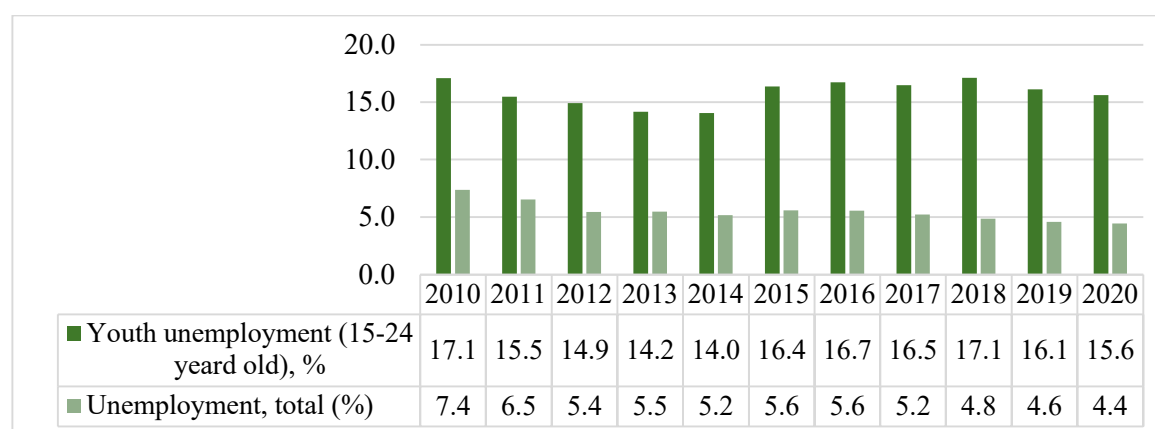
Source: own creation based on ILO data (2021)

Table 6 Youth unemployment rate (15-24 years old), Russia, World, 2010-2019

	Russia		World	
	Youth unemployment rate, %	Change, %	Youth unemployment rate, %	Change, %
2010	17.1	-7.3%	14.5	0.4%
2011	15.5	-9.3%	14.6	0.5%
2012	14.9	-3.6%	14.9	1.9%
2013	14.2	-5.1%	15.1	1.2%
2014	14.0	-0.9%	14.9	-0.9%
2015	16.4	16.6%	15.2	1.8%
2016	16.7	2.1%	15.5	1.7%
2017	16.5	-1.4%	15.4	-0.6%
2018	17.1	3.8%	15.2	-1.1%
2019	16.1	-5.8%	15.3	0.6%
2020	15.6	-3.1%	x	x

Source: own creation based on ILO data (2021)

4.4.3 Unemployment by occupation

Workers in the informal sector and labor migrants are hit hardest by the crisis. In the period from June 2019 to June 2020, employment in the informal sector decreased by 1,9 million jobs, as a result, during this period, the share of informal employment decreased from 21,5 % to 19,4 % (World Bank, 2020, p. 17). Working without employment contracts and carrying out mainly those activities that cannot be transferred to a remote mode, workers in the informal sector suffered more than others during the period of self-isolation, which made them even more vulnerable. It is especially hard for migrant workers, who tend to work in the sectors most affected by the pandemic (construction, retail and hospitality) and do not have formal employment contracts.

Among the professions for which it is most difficult to find work in Russia are accountants and economists. It is concluded based on the comparison of the number of resumes and number of vacancies on the job portal "Work in Russia". Also in the list, where the number of job seekers significantly exceeds the offers of employers for jobs, are managers, legal advisers, sellers of non-food products, watchmen, administrators, psychologists and clerks. In addition, among the top 20 specialties in which finding a job will be problematic, there are medium-skilled accountants, chief accountants, executive secretaries, HR specialists, mechanical engineers, economists in accounting and business analysis, chemists, HR managers, financial economists and mid-level legal advisers.

According to the all-Russian database of vacancies "Work in Russia" (Timirchinskaia, 2019), the most demanded profession in the country at the moment is really a car driver (78,5 thousand jobs). Many jobs is offered for engineers, seamstresses, doctors. The top ten popular professions also include a salesman, an electric and gas welder, a cook, a worker. That is, it requires mainly people with applied skills or skilled workers.

Of course, the situation on the labor market differs from region to region of Russia. So, according to the portal "Work in Russia" (Timirchinskaia, 2019), car drivers are most in demand in Moscow and the Moscow region, electric and gas welders are required in the Amur region, as well as installers of technological and external pipelines, in the Tula and

Vladimir regions - seamstresses, in the Primorsky Territory - concrete workers, and so on, depending on the specifics of the region.
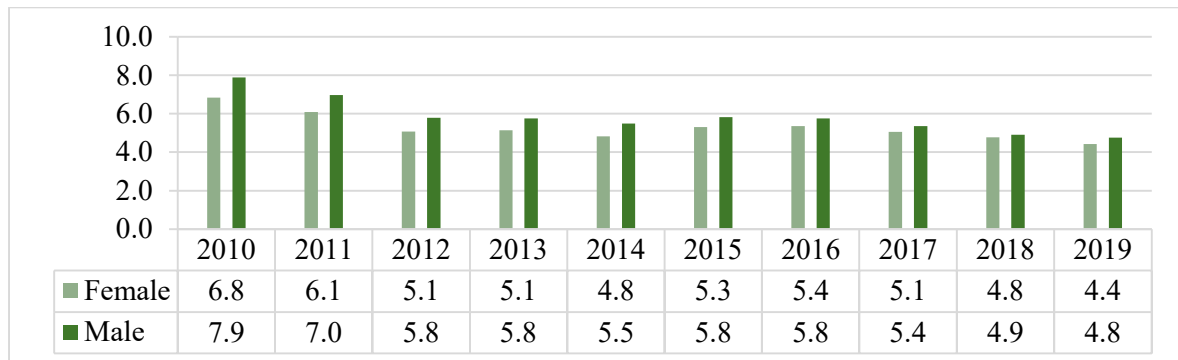
An analysis of the vacancies available on the market allows to identify two groups of specialists that the labor market desperately needs. These are, firstly, doctors – among similar specialties that require high qualifications, there is a very high level of the number of vacancies per 100 jobs. First of all, doctors are required, and secondly, middle and junior medical personnel. It is interesting that there is no such demand in education, the level of the number of vacancies there is comparable to the average in Russia. The second group of specialists is highly qualified employees in the field of information technology. These are high-level programmers from the category of developers, high profile analysts and other specialists in this field.

4.5 Position of women on the labor market and female unemployment

Female unemployment is common in the labor markets of most countries in the world. The isolation of the problem of female unemployment is caused by the fact that the unemployment rate among women, as a rule, is higher than the level of unemployment among men and above the average level of unemployment. The problem of different levels of competitiveness of men and women in the labor market also has a long history.

When comparing the main indicator – the measure of unemployment for men and women in Russia, at first glance it seems that women are not exposed to the risk of unemployment and all the associated effects (poverty, certain social status, discrimination in the labor market, dependence on social benefits and other sources of income etc.). Figure 17 illustrates the dynamics of the male and female unemployment rate from 2010 to 2019. Both pointers undergo similar changes – rising or falling – at specific periods. In recent years, there has been a decrease in the difference between the unemployment rate of men and women. In 2018, the gap was minimal – 0,1 percentage points.
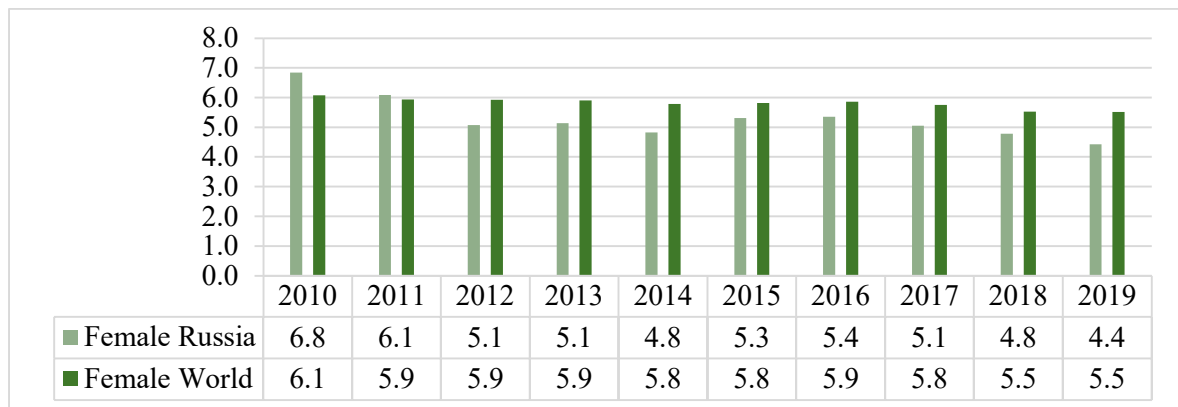
Figure 15 Female and male unemployment rate by ILO (15+), %, Russia, 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Female	6.8	6.1	5.1	5.1	4.8	5.3	5.4	5.1	4.8	4.4
■ Male	7.9	7.0	5.8	5.8	5.5	5.8	5.8	5.4	4.9	4.8

Source: own creation based on ILO data (2020)

The fact that the situation with female unemployment in Russia is quite good is obvious when comparing the index with the average unemployment rate of women in the world (diagram 3). Only in 2010-2011 was the unemployment rate of women in Russia slightly higher than in the world, and from 2012 the situation has changed. Until the last year in the analyzed period – 2019 – the unemployment rate of women in Russia is consistently lower than in the world on average.

Figure 16 Female unemployment rate by ILO (15+), %, Russia, world, 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ Female Russia	6.8	6.1	5.1	5.1	4.8	5.3	5.4	5.1	4.8	4.4
■ Female World	6.1	5.9	5.9	5.9	5.8	5.8	5.9	5.8	5.5	5.5

Source: own creation based on ILO data (2020)

4.5.1   Unemployment duration

The gap between unemployed women and men in terms of duration of job search is insignificant (table 2). During the period 2010-2019, according to ILO (2020) the indicators did not change much either. Less than half of unemployed women are looking for work for less than 6 months (47 % in 2010 and 2015, 48 % in 2019). Approximately one fifth of women are looking for a job from six months to a year (16 % in 2010, 19 % in 2015 and 20 % in 2019). One third of women belong to the category of long-term unemployed – more than a year. However, this indicator has decreased over the past years

– 37 % in 2010 and 31 % in 2019. Compared to women, men who are unemployed for more than a year are slightly less – 33 % in 2010, 27 % in 2019.

Table 7 Unemployment by duration, female and male, %, Russia, 2010, 2015, 2019

Duration	2010		2015		2019	
	women	men	women	men	women	men
less than 6 months	47%	50%	47%	51%	48%	52%
6 months to less than 12 months	16%	17%	19%	19%	20%	20%
12 months or more	37%	33%	34%	30%	31%	27%
not elsewhere classified	0%	0%	0%	0%	1%	1%

Source: own creation based on ILO data (2020)

Despite the relatively good indicators of official statistics on female unemployment in Russia, in reality the position of women is worse than men – for example, in terms of income, unpaid labor, free time, etc. It is also relevant the problem of dicsrimantion and structural unemployment.

4.5.2 "Female" and "male" occupations in Russia

Despite the fact that in Art. 19 and 37 of the Constitution of the Russian Federation clearly enshrine the principles of equality of men and women, in practice everything turns out to be much more complicated. First of all, 456 jobs are restricted for women until the beginning of 2021 in Russia (the new list of restricted jobs is valid from 1st January 2021 and already contains 100 professions) (Pravo.ru, 2019). In particular, restrictions apply to chemical production, metallurgy, mining, repair of air ships and water transport (Topilin, Pravo.ru, 2019). It should be noted that in the developed Western countries, some gender-based restrictions are unacceptable.

In addition, after the cardinal changes that took place in Russia at the end of the twentieth century, when the country clearly embarked on the path of development of a market economy, there was a gender-oriented change in the structure of employed in the labor market. First of all, the number of women in all sectors of the economy has dropped sharply. In addition, fewer women in professions associated with highly intellectual work, where high qualifications and professionalism are required, became noticebly. For example, in such sectors of the economy as mechanical engineering (including

engineering), where about 50 % of women worked during the USSR, now there are only 32 %. In light industry, where the share of women was about 80 %, this index dropped to 64 %. Only in education, social sectors and health care women, as before, occupy a dominant position in terms of the number of workers (Ermishkina, 2019, p. 117).

As for other sectors of the Russian economy, here for the most part women are employed in low-prestige and low-paid jobs (Grechikhin, 2019, p. 35). This is confirmed by the statistics on the income of men and women.

4.5.3 Income of female-headed households in Russia

According to Rosstat (2021), the average monthly cash income of households in which the head is a woman is significantly lower than that of households in which the head is a man. According to the latest data from 2018, the monthly income in the first case is 53.4 thousand rubles, in the second – 82,9 thousand rubles. A significant part of the income of female-headed households are social payments, including pensions, benefits, compensations and others (32,7 % of the total income). In male-headed households, these transfers account for about 17,7 % of the total monthly income.

Several percent more women than men have incomes below the subsistence level. This is especially true of young women between the ages of 16 and 29 years old. According to Rosstat data for 2018, 13,3 % of women at this age have incomes below the subsistence level, while 11.9 % of men is in this category.

4.5.4 Unpaid work of women in Russia

It is characteristic for women in Russia that they devote most of their day to so-called unpaid work – housework, caring for family members and children. According to Rosstat, in 2019, women in the city spent an average of 3:02 hours a day on providing unpaid domestic services to members of households and families and 57 minutes a day to provide unpaid services for the care of members of the household and family. Women in rural areas devote even more time to household services – 3:35 hours per day, while caring for other family members is slightly less – 0:54 minutes per day. Comparison for this indicator with men is shown in the table.

Table 8 Daily time on weekdays, women and men (15+), Russia, 2019

	Urban area		Rural area	
	women	men	women	men
Daily time	24:00	24:00	24:00	24:00
employment	4:47	6:46	3:36	5:34
production of goods for own use	0:22	0:22	1:12	1:21
unpaid housework for household members and family	3:02	1:13	3:35	1:24
unpaid services for the care of household members and family	0:57	0:18	0:54	0:15
unpaid voluntary or trainees' work, other types	0:01	0:01	0:01	0:02
training, education	0:24	0:39	0:20	0:29
free time	3:12	3:39	3:13	3:49
personal hygiene and care, sleeping	11:15	11:02	11:09	11:05

Source: own creation based on data of Rosstat (2021, p. 175)

Thus, in Russia today, despite the prohibition of gender discrimination and fairly good data from official labor market statistics, there is a problem with the position of women in the labor market.

5 Results and Discussion

A summary of the main results of the analysis is given below. Then the answers to the research questions are given. Finally, recommendations for mitigating the negative economic effects on the labor market in Russia are given.

5.1 Results and main problems of the Russian labor market

There is a paradoxal situation in Russia: the country has huge reserves of natural resources and human capital, but cannot effectively use their potential. So Russia significantly lags behind in term of living standards of population.

Overloaded of the state budget by different projects, reforms and very attractive social policy, provided by the state before the world crisis in 2008-2009, as well as raising taxes, corruption and monopolization were the main problems, that caused more damage to the Russian economy during the crisis.

The crisis of those years already showed the urgent need to modernize and restructure the Russian economy. This would help boost employment in a variety of sectors and reduce unwanted unemployment in some professions. However, this lesson has not been used by the country. At a time of oil crisis, when oil prices fell dramatically and the Russian ruble weakened significantly, Russia was once again facing problems.

The first wave of sanctions was not threatening for Russia; on the contrary, it forced Russia to use its own potential, reorient itself to the development of various economic sectors of production and support multinational enterprises. The latest sanctions, aimed directly at restricting the exports of specific companies, are a greater threat to Russia. Hard times for large export companies understandably cause rising unemployment in Russia.

Due to its size and multinationality, Russia is characterized by significant regional differences – both from a general economic point of view and from the point of view of the labor market alone. A particularly high increase in unemployment during the crisis was observed in the regions where the traditionally high level of unemployment (and not during the crisis). A typical example is the North Caucasian District.

Regions that have a little diversified economy are subject to sharp changes in the unemployment rate under the influence of changes in this area of the economy. For example, regions with developed oil industries are seeing unemployment falling to record lows during the development of new fields (a typical example of the Yamalo-Nenets autonomous district in 2019). In the regions of the North Caucasus District, there is a rapid increase in the already high unemployment during the fall in the processing industry (the most significant in the country in 2019). The lowest unemployment and less sharp changes in this indicator are observed in regions with a diversified economy (for example, Moscow, St. Petersburg). The regional view of unemployment confirms the fact that the restructuring of Russia's economy and exports is a first-class task.

The results of the regression analysis also indicated the existence of a statistically significant relationship between oil prices changes and changes of the unemployment rate (correlation coefficient = 0,721, coefficient of the determination = 0,520). According to the forecast of the oil prices in 2021 (58 USD per barrel) and used the regression line, the estimate of the unemployment rate is made: annual average of the unemployment rate must be 4,94 % with the 52 % probability.

Another application of the regression analysis confirms the Okun's Law for Russia in the period of 2010-2020. The correlation between GDP growth and unemployment changes is statistically significant and is very high (correlation coefficient = 0,855). With the 92,5 % probability is concluded, that the unemployment rate would be 4,78 % in 2021 (if the GDP growth will be 3 %) and 3,82 % in 2022 (if the GDP growth will be 3,9 %).

The created models of the dependence of the unemployment rate on the growth of the country's total exports and inflation have a very low reliability. The Phillips curve for Russia in the period 2010-2020 does not have a reliable trend. It is likely that this is due to working with annual data (working with quarterly or monthly data may give better results).

5.2 Answering research questions

- What factors affect growth of unemployment in Russia?

The rise in unemployment in Russia is mainly caused by a decline in the economy as a whole and a fall in world oil prices. This conclusion is confirmed by the results of the regression analysis for the period 2009-2020. It can be argued that the crises (2008-2009, 2014-2015, 2020) are causing rising unemployment). The better the economy manages the crisis, the less people are at risk of unemployment.

- What areas and professions are most affected by unemployment in Russia?

Workers in the informal sectors and labor migrants are groups of the population, that are most affected by crises and unemployment. It is difficult to find a job for such specialists as accountants, economists, managers, legal advisers, sellers of non-food products, administrators etc. The number of resumes is greater then the number of vacancies for these professions.

Traditionally the area of North Caucasian is the region with the highest unemployment in Russia. The youth unemployment (15-25 years old) is also very high in Russia – more than three times the overall unemployment rate in the country and 1-2 percentage points higher than the world average. So, some regions of Russia and young population also present the groups of population, which are affected by the unemployment.

- What areas and professions are, on the contrary, the most promising in terms of employment in Russia?

The highest demand is for the car drivers, engineers, seamstresses, doctors, IT specialists, skilled and unskilled workers. Also, the greatest chances of finding work in general are in large cities, while some more remote regions and small towns offer work for specific professions (eg mining, chemical industry, nuclear energy areas).

- What measures can be proposed to alleviate the negative effects of unemployment in Russia?

The government needs to take the following measures:

a) to reduce dependence on the dynamics of commodity markets (develop industries focused on high-tech exports);

b) create conditions that will stimulate the development of entrepreneurship (reduce administrative barriers, reduce the tax burden);

c) increase investment attractiveness (strengthening the fight against corruption, judicial reform, protection of property rights, support for effective companies, regions, projects);

d) increase the level of trust in the authorities and their possible actions to mitigate the effects of crises. So, in my opinion, plans should be prepared and published to support specific groups of the population (for example, bread and milk should not grow in price by more than 4-5 % per year);

e) pursue a coherent media policy aimed at reducing the prestige of overconsumption; implement additional taxation of luxury goods if possible.

The list of measures is quite banal, but hopes for the implementation of these measures are very illusory.

6 Conclusion

The aim of the thesis was to define main specific features of the unemployment in Russia. To achieve this aim, the analysis of the unemployment in Russia in regional and sectoral aspects was made. Particular attention was paid to the 10-year period 2010-2020. In order to better understand the situation at the beginning of this period, developments before and during the global crisis of 2008-2009 were also outlined. Depending on the availability of data, 2020 and 2021 years were included in the study period.

Unemployment is a phenomenon related to the development of a number of other economic indicators, so this work examined the development of Russia's economy as a whole (using indicators of GDP, inflation, exchange rate, etc.).

A comparison of the development of unemployment in Russia and in the world was examined, and specific features of the development of the Russian economy and labor market in times of crisis have been discovered (during the global economic crisis, during the oil crisis and politic conflicts in 2014-2015, during the COVID-19 pandemic).

A special chapter of the thesis includes the demographic characteristics of Russia and the characteristics of employment in this country. Attempts were made to find out certain specifics in the area of the length of unemployment, gender differences in the occupation of jobs and incomes of families with a man / woman in charge, the length of unpaid work of women.

In connection with Russia's known dependence on hydrocarbon exports, the development of Russian exports and world oil prices was taken into account in this work. Regression analysis methods were used to examine the envy of unemployment indicators and the factors that may affect it.

The benefit of the work is the definition of the area on which the policy of the labor market should focus. They relate to the reducing of the dependence on the dynamics of commodity markets, creating conditions for the stimulation of entrepreneurship and increasing investment attractiveness.

7 References

Books

BUTOV, V., IGNATOV, V., KETOVA, N. (2016). Fundamentals of regional economy. Rostov-on-Don, Russia: Publishing House "March". 241 p. ISBN 5-8013-0054-6.

ČERNOHORSKÁ, L., ČERNOHORSKÝ, J. (2007). Současné přístupy k predikci míry inflace pomocí Phillipsovy křivky. Scientific papers of the University of Pardubice. Series D, Faculty of Economics and Administration. Pardubice: University of Pardubice, 11, pp. 1-13. ISSN 1211-555X.

DEDEEVA, S., GALUSHKO, M., BAZHENOVA, T. (2020). Analysis of the reasons of unemployment and its negative consequences in modern Russia. Modern problems of science and education. Academy of Natural History, 7(2), pp. 19-27. Doi: 10.17513/vaael.1234

DOOLEY, D., PRAUSE, J. (2003). The Social Costs of Underemployment: Inadequate Employment as Disguised Unemployment. Cambridge: Cambridge University Press. 286 p. ISBN 978-0-5111-8717-9.

DUDINA, O., ARSELGOVA, M. (2019). Social and economic consequences of unemployment. Russian Journal of Labor Economics. Russia: Creative Economy Publishers, 6(2), pp. 923-940. doi: 10.18334/et.6.2.40810

DVOŘÁČEK, J. (2012). Podnik a jeho okolí. Jak přežít v konkurenčním prostředí. Prague: C. H. Beck. 173 p. ISBN 978-80-740-0224-3.

DYAVYDOVA, E., BEZYAIEVA, O. (2014). The problem of unemployment in modern Russia. Territory of science. Voronezh, Russia: VEPI, 1, pp. 75-79. ISSN 1991-9492.

ERMISHKINA, O., TSHADADZE, N. (2019). Women's unemployment: problems and consequences. Topical Issues of Economy and Finance. Perm': PIEF, 1, pp. 116-119. ISSN 2312-1106.

GRECHIKHIN, Vlasimir. (2019). The women's unemployment in Russia at the present stage and the main reasons for its occurrence. Humanities, Socio-economic and Social Sciences. Krasnodar: Science and Education, (8), pp. 34-38. ISSN 2221-1373.

HALL, R. (2005). Employment Fluctuations with Equilibrium Wage Stickiness. American Economic Review. American Economic Association, 95(1), pp. 50-65. Doi: 10.1257/0002828053828482

HELÍSEK, M. (2002). Makroekonomie, základní kurs. 2nd edition. Slaný, Melandrium. 326 p. ISBN 80-86175-26-X.

HINDLS, R. et al. (2007). Statistika pro ekonomy. 8th edition. Prague: Professional Publishing. 415 p. ISBN 978-80-86946-43-6.

HOLMAN R., et al. (2001). Dějiny ekonomického myšlení. 2nd edition. Prague: C. H. Beck. ISBN 80-7179-631-X.

HOLMAN, R. (2001). Ekonomie. 2. přeprac. a dopl. vyd.. Praha: C. H. Beck. 714 p. ISBN 80-7179-387-6.

HOLMAN, R. (2005). Ekonomie. 4th edition. Prague: C. H. Beck. 709 p. ISBN 978-80-717-9891-0.

IBRAGIMOVA, Z. (2017). Information about the authors. Social statistics. Moscow, Russia: REU, 14(4), pp. 33-40. doi: 10.21686/2500-3925-2017-4-33-40

JUREČKA, V. et al. (2017). Makroekonomie. 3rd edition. Prague: Grada Publishing. 368 p. ISBN 978-80-271-0251-8.

KAPELYUSHNIKOV, R. (2002). Total and Registered Unemployment: What Causes the Gap? Demoskop WEEKLY. Moscow: GU HSE, 3, pp. 1-48. ISSN 1736-2887. URL: http://www.demoscope.ru/weekly/2004/0149/analit02.php

KEYNES, J. (1936). The General Theory of Employment, Interest and Money. Zurich: ISN ETH. URL: https://www.files.ethz.ch/isn/125515/1366_KeynesTheoryof Employment.pdf

KIESELBACH, T. et al. (2006). Unemployment and Health: International and Interdisciplinary Perspectives, Bowen Hills, Australia: Australian Academic Press. 310 p. ISBN 978-1-8753-7861-6.

KLIMOVA, O., EGOROVA, A. (2014). Unemployment in Russia and in the World: Analysis of Major Trends. Society: politics, economics, law. Krasnodar, Russia: HORS, (1), 112-116. ISSN 2223-6392.

KORHONEN, M., HUIKARI, S. (2015). Russian law defines only registered unemployment, while the ILO - the general unemployment rate. Social Indicators Research. Dorfrecht, Netherlands: Springer, 128(3), pp. 1103-1119. doi: 10.1007/s11205-015-1071-x

KRAFT, J., BEDNÁŘOVÁ, P., KOCOUREK, A. (2008). Ekonomie I. 3rd edition. Liberec: Technical university in Liberec. 202 p. ISBN 80-7179-387-6.

KRIVOLABA, A. (2017). Unemployment in Russia and the world: analysis of the main trends. Scientific and educational potential of youth in solving current problems of the XXI century. Krasnoyarsk, Russia: FGBOU VO, 7, pp. 29-32. ISSN 2310-986X.

KUNZE, L., SUPPA, N. (2020). The effect of unemployment on social participation of spouses: evidence from plant closures in Germany. Empirical Economics. Heidelberg, Germany: Springer, 58(2), pp. 815-833. doi: 10.1007/s00181-018-1542-4

LIŠKA, V. et al. (2004). Makroekonomie. Prague: Professional Publishing. 628 p. ISBN 80-86419-54-1.

PAVELKA, T. (2007). Makroekonomie – základní kurz. 2. vyd. Melandrium. 278 p. ISBN 978-80-86175-52-2.

ROJÍČEK, M. et al. (2016). Makroekonomická analýza – teorie a praxe. Prague: Grada. 544 p. ISBN 978-80-271-9474-2.

SAMARA, A. et al. (2020). Studying Unemployment Effects on Mental Health: Social Media versus Traditional Approach (Working Paper). Basel, Switzerland: MDPI AG, Preprints. doi: 10.20944/preprints202008.0355.v1

ŠIMÍKOVÁ, I. (2004). Mechanismy sociálního vyčleňování romských komunit na lokální úrovni a nástroje integrace. Brno: Barrister & Principal. 211 p. ISBN 80-7364-009-0.

SOUKUPOVÁ, J. et al. (2004). Mikroekonomie. Prague: Management Press. 548 p. ISBN 80-7261-. 061-9.

TULEJA, P., MAJEROVÁ, I., NEZVAL, P. (2006). Základy makroekonomie. 1st edition. Brno: Computer Press. 311 p. ISBN 80-251-0952-6.

YASIN, E. (2019). Russian Economy: The Post-Reform Present and Perspectives 2. Moscow: High School of Economy Publishing. 528 p. ISBN 978-5-7598-1888-5.

Internet sources

APTEKAR', Pavel. (2020). Unemployment mask. Vedomosti. [online]. URL: https://www.vedomosti.ru/opinion/articles/2020/06/17/832878-maskirovka-bezrabotitsi. Accessed 2021-01-07.

BUCKLEY, S. (2012). Get a tan or go abroad: Europe's unemployment inspires desperate measures. Quartz. [online]. URL: https://qz.com/24363/get-a-tan-or-go-abroad-europes-unemployment-inspires-desperate-measures/. Accessed 2020-11-10.

ČSÚ. (2021). Hrubý domácí product – Metodika. [online]. URL: https://www.czso.cz/csu/czso/hruby_domaci_produkt_-hdp-. Accessed 2021-02-05.

DAVIDOVÁ, M. (n/d). Aktivní a pasivní politika zaměstnanosti (Studijní text). [online]. URL: https://moodle.unob.cz/pluginfile.php/38837/mod_resource/content/1/Aktivn%C3%AD%20a%20pasivn%C3%AD%20politika%20zaměstnanosti%20%28studijn%C3%AD%20text%29.pdf. Accessed 2020-11-10.

ECONOMICS ONLINE. (2020). Unemployment types. Economics online: for students of economics. [online]. URL:

https://www.economicsonline.co.uk/Managing_the_economy/Unemployment_types_and_ causes.html. Accessed 2020-11-10.

EUROSTAT. (2021). Employment and unemployment (Labour Force Survey). [online]. URL: https://ec.europa.eu/eurostat/web/lfs/data/main-tables. Accessed 2021-01-07.

FRED. (2021). Crude oil prices: Brent - Europe. [online]. URL: https://fred.stlouisfed.org/series/DCOILBRENTEU. Accessed 2021-02-05.

GARSIDE, M. (2020). Global natural resource value leading countries 2019. Statista. [online]. URL: https://www.statista.com/statistics/748223/leading-countries-based-on-natural-resource-value/. Accessed 2021-02-05.

ICSS. (2020). 2008 i 2020: chto izmenilos' v ekonomike i ekonomicheskoj politike? [online]. URL: https://icss.ru/vokrug-statistiki/2008-i-2020-chto-izmenilos-v-ekonomike-i-ekonomicheskoy-politike. Accessed 2021-02-05.

ILO. (2003). Statistics of Employment, Unemployment, Underemployment: Economically Active Population. [online]. International Labour Organization. Turin, Italy: International Training Centre of the ILO. ISBN 92-2-115386-X. URL: https://www.ilo.org/public/english/bureau/stat/download/module.pdf. Accessed 2020-11-10.

ILO. (2011). KPRT 2. Employment-to-population ratio. [online]. URL: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_501602.pdf. Accessed 2020-11-10.

ILO. (2020). World Employment and Social Outlook: Trends 2020. [online]. Geneva: ILO. 127 p. ISBN 978-92-2-031407-4. URL: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_734455.pdf. Accessed 2021-01-07.

ILO. (2020). World Employment Social Outlook: Trends 2016. [online]. Geneva: ILO. 94 p. ISBN 978-92-2-129633-1. URL: https://www.ilo.org/wcmsp5/groups/public/---

dgreports/---dcomm/---publ/documents/publication/wcms_443480.pdf. Accessed 2021-01-07.

ILO. (2021). Statistics on unemployment and supplementary measures of labour underutilization. [online]. URL: https://ilostat.ilo.org/topics/unemployment-and-labour-underutilization/. Accessed 2021-01-07.

ILO. (n/d). Unemployment rate. [online]. URL: https://www.ilo.org/ilostat-files/Documents/description_UR_EN.pdf. Accessed 2020-11-10.

KOLMAN, P. (2007). Aktivní a pasivní politika zaměstnanosti. [online]. URL: http://www.ceskaskola.cz/2007/08/petr-kolman-aktivni-pasivni-politika.html. Accessed 2020-11-10.

KURZY.CZ. (2021). Graf USD / RUB od 4.1.1993 do 25.3.2021, ČNB, grafy kurzů měn. [online]. URL: https://www.kurzy.cz/kurzy-men/grafy/nr/RUB-USD/od-4.1.1993/. Accessed 2021-02-05.

LUMEN LEARNING. (2020). The Relationship Between Inflation and Unemployment. [online]. URL: https://courses.lumenlearning.com/boundless-economics/chapter/the-relationship-between-inflation-and-unemployment/. Accessed 2021-02-05.

MACROTRENDS. (2021). Brent Crude Oil Prices - 10 Year Daily Chart. [online]. URL: https://www.macrotrends.net/2480/brent-crude-oil-prices-10-year-daily-chart. Accessed 2021-01-07.

MATTHEWS, O. (2008). Why Putin went to wat, and what happens next. News Wek. [online]. URL: https://www.newsweek.com/why-putin-went-war-and-what-happens-next-88045. Accessed 2021-02-05.

MINTRUD. (2020). State program of the Russian Federation "Promotion of employment of the population". [online]. URL: https://mintrud.gov.ru/ministry/programms/3/1. Accessed 2020-11-10.

MOVCHAN, A. (2015). Iz kakich ozhidanij rasschityvalsya rossijskiy busget 2016. [online]. URL: https://carnegie.ru/commentary/2015/11/09/ru-61908/ilb1. Accessed 2021-02-05.

MOVCHAN, A. (2016). Korotko o glavnom: rossijskaya ekonomika v XXI veke. [online]. URL: https://carnegie.ru/2016/04/26/ru-pub-63431. Accessed 2021-02-05.

NEWSWEEK. (2009). Rossiya zasluzhivayushaja uvazheniya. [online]. URL: https://inosmi.ru/world/20080825/243538.html. Accessed 2021-02-05.

PEARSON AGENCY. (2017). Unemployment in Russia. [online]. URL: https://person-agency.ru/statistic.html. Accessed 2020-11-10.

PRAVO.RU. (2019). The Ministry of Labor (MinTrud) approved a new list. [online]. URL: https://pravo.ru/news/213893/. Accessed 2021-01-07.

PRIME. (2019). Finansovo-ekonomicheskie krizisy poslednich desyatiletiy I ich vliyanie na ekonomiku Rossii. [online]. URL: https://1prime.ru/sience/20190402/829858467.html. Accessed 2021-02-05.

RIA RATING. (2020). Rating of the social-economic positions of the subjects of RF: results of 2019. [online]. Moscow: 2020. URL: http://vid1.rian.ru/ig/ratings/rating_regions_2020.pdf. Accessed 2021-01-07.

ROSSTAT. (2008). Population survey on employment problems – 2008. [online]. URL: https://rosstat.gov.ru/bgd/regl/b08_30/IssWWW.exe/Stg/d020/vved-5.htm. Accessed 2020-11-10.

ROSSTAT. (2016). Russia. Special Data Dissemination Standard. [online]. URL: https://rosstat.gov.ru/bgd/free/b00_24/IssWWW.exe/Stg/d000/I000081R.HTM. Accessed 2020-11-10.

ROSSTAT. (2020). Employment and unemployment in the Russian Federation in December 2020 (based on the labor force survey). [online]. URL: https://rosstat.gov.ru/bgd/free/B04_03/IssWWW.exe/Stg/d02/17.htm. Accessed 2021-01-07.

ROSSTAT. (2020). Employment and unemployment in the Russian Federation in March 2020 (based on the labor force survey). [online]. URL: https://rosstat.gov.ru/bgd/free/B09_03/IssWWW.exe/Stg/d05/76.htm. Accessed 2021-01-07.

ROSSTAT. (2020). Employment and unemployment in the Russian Federation in June 2020 (based on the labor force survey). [online]. URL: https://rosstat.gov.ru/bgd/free/B04_03/IssWWW.exe/Stg/d05/140.htm. Accessed 2021-01-07.

ROSSTAT. (2020). Employment and unemployment in the Russian Federation in September 2020 (based on the labor force survey). [online]. URL: https://rosstat.gov.ru/bgd/free/B04_03/IssWWW.exe/Stg/d05/200.htm. Accessed 2021-01-07.

ROSSTAT. (2020). Employment and unemployment in the Russian Federation in March 2020 (based on the labor force survey). [online]. URL: https://rosstat.gov.ru/bgd/free/B09_03/IssWWW.exe/Stg/d05/76.htm. Accessed 2021-01-07.

ROSSTAT. (2020). Employment and unemployment in the Russian Federation in October 2020. [online]. URL: https://rosstat.gov.ru/bgd/free/B04_03/IssWWW.exe/Stg/d02/220.htm

ROSSTAT. (2021). Nacionalnyje scheta. [online]. URL: https://rosstat.gov.ru/accounts. Accessed 2021-02-05.

ROSSTAT. (2021). Women and men of Russia. [online]. URL: https://rosstat.gov.ru/folder/210/document/13215. Accessed 2021-01-07.

ŠETEK, Jaroslav. (2019). Makroekonomie I. [online]. URL: http://www2.ef.jcu.cz/~jsetek/Makroekonomie_1/cviceni/Makroekonomie%208.%20cviče n%C3%AD.pdf. Accessed 2021-02-05.

STATDATA. (2021) Countries of the world – list. [online]. URL: http://www.statdata.ru/largest_countries_by_area. Accessed 2021-01-07.

SWISS INFO. (2021). Fitch povysilo prognoz cen na neft' Brent i WTI v 2021-2022. [online]. URL: https://www.swissinfo.ch/rus/fitch-повысило-прогноз-цен-на-нефть-brent-и-wti-в-2021-2022-гг/46458404. Accessed 2021-02-05.

TAYLOR, J. (2012). Employment centre denies spray tan for jobseekers offer. BBC. [online]. URL: https://www.bbc.com/news/newsbeat-20321731. Accessed 2020-11-10.

TIMIRCHINSKAIA, O. (2019). Put' k uspechu. Gazeta.ru. [online]. URL: https://www.gazeta.ru/business/2019/11/05/12796208.shtml. Accessed 2021-02-05.

TOPILIN, Maxim, PRAVO.RU. (2019). The Ministry of Labor approved a new list of professions prohibited for women. [online]. URL: https://pravo.ru/news/213893/. Accessed 2021-01-07.

TRADING ECONOMICS. (2021). Russia Inflation Rate. [online]. URL: https://tradingeconomics.com/russia/inflation-cpi. Accessed 2021-03-23.

VLASOVA, I. (2020). Twice as high: analysts estimate the level of real unemployment. Gazeta.ru. [online]. URL: https://www.gazeta.ru/business/2020/10/01/13275469.shtml. Accessed 2020-11-10.

WORLD BANK, ILO. (2021). Labor force with advanced education (% of total working-age population with advanced education). [online]. URL: https://data.worldbank.org/indicator/SL.TLF.ADVN.ZS. Accessed 2021-02-05.

WORLD BANK. (2009). Doklad ob ekonomike Rossii 18. [online]. URL: https://www.vsemirnyjbank.org/ru/news/feature/2009/03/30/russian-economic-report-18-refocusing-policy-households. Accessed 2021-02-05.

WORLD BANK. (2015). Russian Economy Report No.33 April 2015. [online]. URL: https://www.worldbank.org/content/dam/Worldbank/document/eca/russia/rer33-rus.pdf. Accessed 2021-01-07.

WORLD BANK. (2019). How Wealthy is Russia? The World Bank. [online]. URL: https://www.worldbank.org/en/country/russia/publication/how-wealthy-is-russia/. Accessed 2021-02-05.

WORLD BANK. (2020). Russian Economy Report No.44. [online]. URL: http://pubdocs.worldbank.org/en/189351608098609835/Russia-Economic-Report-44-in-Russian.pdf. Accessed 2021-01-07.

WORLD BANK. (2021). GDP (current US$). The World Bank. [online]. URL: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most_recent_value_desc=true. Accessed 2021-02-05.

WORLD BANK. (2021). Population, total. The World Bank. [online]. URL: https://data.worldbank.org/indicator/SP.POP.TOTL?most_recent_value_desc=true. Accessed 2021-02-05.

WORLD BANK. (2021). Total natural resources rents (% of GDP). The World Bank. [online]. URL: https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS?most_recent_value_desc=true . Accessed 2021-02-05.

Laws

ILO. (n/d). ILO Glossary of Statistical Terms. [online]. URL: https://www.ilo.org/ilostat-files/Documents/Statistical%20Glossary.pdf. Accessed 2020-11-10.

RUSSIA. (2000). Rules for assigning territories to areas with a tense situation in the labor market. [online]. URL: https://mintrud.gov.ru/ministry/programms/inform/5. Accessed 2020-11-10.

RUSSIA. (2020). The Labor Code of the Russian Federation 2020. [online]. URL: http://www.trudkod.ru. Accessed 2020-11-10.

RUSSIA. (1991, act. 2016). Federal Law No. 1032-I of April 19, 1991 "On employment of the population in the Russian Federation". [online]. Ministry of Labour of Russian Federation. URL: https://mintrud.gov.ru/docs/laws/89. Accessed 2020-11-10.
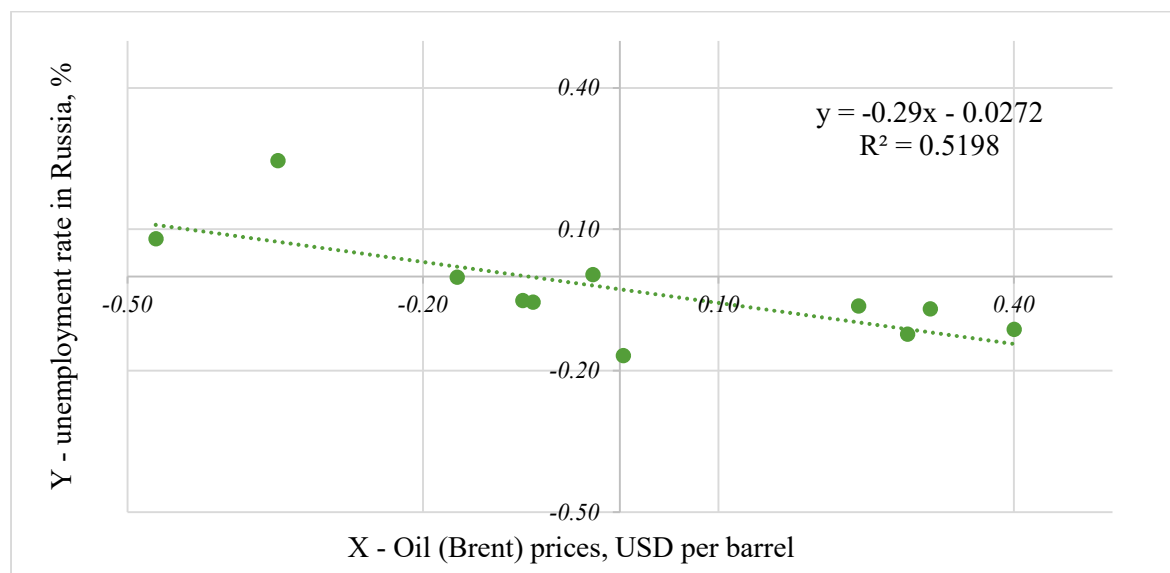
8 Appendixes

Appendix A Oil prices (Brent) and unemployment rate in Russia, 2009-2020

	Oil (Brent) prices, USD per barrel	Unemployment rate, %	Annual growth, %	
			X – Oil (Brent) prices	Y – Unemployment rate
2009	61,51	8,4	-	-
2010	79,47	7,4	0,29	-0,12
2011	111,26	6,5	0,40	-0,11
2012	111,63	5,4	0,00	-0,17
2013	108,56	5,5	-0,03	0,00
2014	98,97	5,2	-0,09	-0,05
2015	52,32	5,6	-0,47	0,08
2016	43,67	5,6	-0,17	0,00
2017	54,25	5,2	0,24	-0,06
2018	71,34	4,9	0,32	-0,07
2019	64,3	4,6	-0,10	-0,05
2020	41,96	5,7	-0,35	0,25

|		
Multiple R	0,721	72 % (strong correlation)
R Square	0,520	52 % (average reliability)
P-value	0,05	Selected confidence level 0,05 (95 %)
Significance F	0,012	Less than P-value, statistically significant model
Observations	11	Number of observations
Regression line	$Y = \beta_0 + \beta_1 x$	Y = -0,29x – 0,0272

Source: author, data ILO (2021) and FRED (2021)

Appendix B GDP and unemployment rate in Russia, 2010-2020

	GDP, annual growth, %	Unemployment rate, annual growth, %
2010	4,50	-0,12
2011	4,30	-0,11
2012	4,02	-0,17
2013	1,76	0,00
2014	0,74	-0,05
2015	-1,97	0,08
2016	0,19	0,00
2017	1,83	-0,06
2018	2,54	-0,07
2019	1,34	-0,05
2020	-3,10	0,25

| Multiple R	0,925	92,5 % (strong correlation)
R Square	0,855	85,5 % (average reliability)
P-value	0,05	Selected confidence level 0,05 (95 %)
Significance F	0,00005	Less than P-value, statistically significant model
Observations	11	Number of observations
Regression line	$Y = \beta_0 + \beta_1 x$	Y = -0,0427x − 0,0341
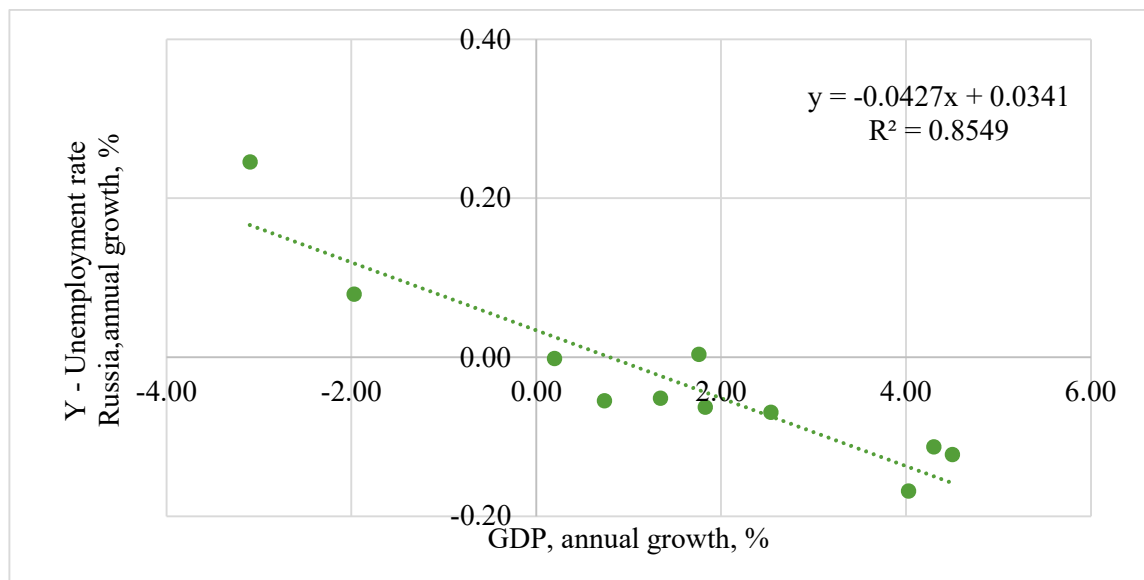
Source: author, data ILO (2021) and World Bank (2021)

Appendix C Export and unemployment rate in Russia, 2010-2019

	Export, annual growth, %	Unemployment rate, annual growth, %
2010	7,00	-0,12
2011	0,30	-0,11
2012	1,36	-0,17
2013	4,56	0,00
2014	0,51	-0,05
2015	3,67	0,08
2016	3,17	0,00
2017	5,01	-0,06
2018	5,55	-0,07
2019	-2,34	-0,05
2020	-	0,25

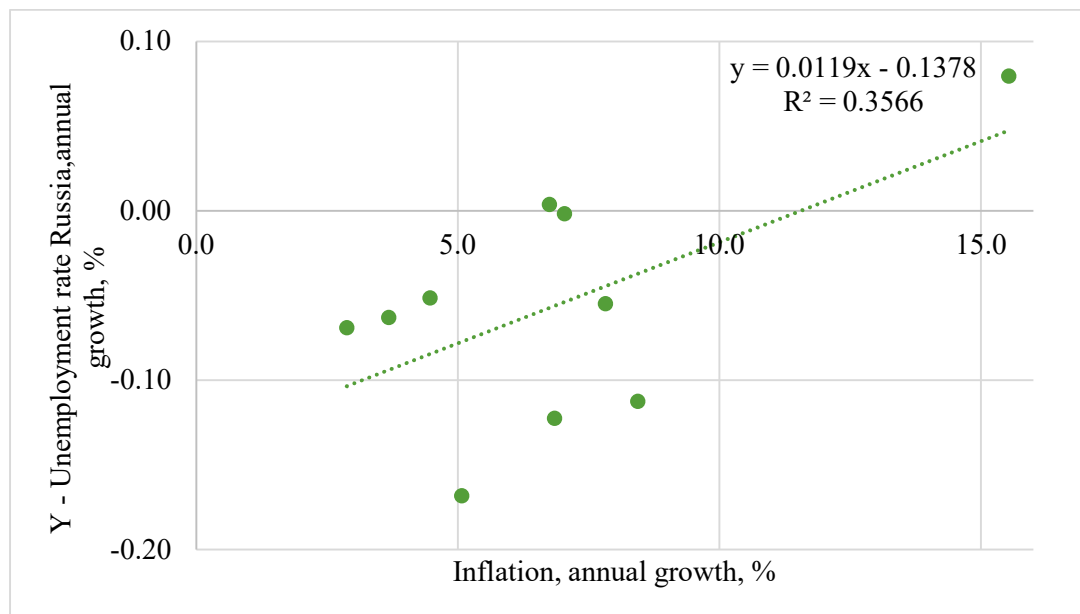|		
Multiple R	0,104	10,4 % (very weak correlation)
R Square	0,011	1,1 % (very low reliability)
P-value	0,05	Selected confidence level 0,05 (95 %)
Significance F	0,775	More than P-value, model is not statistically significant
Observations	10	Number of observations
Regression line	$Y = \beta_0 + \beta_1 x$	Y = 0,0026x − 0,0635
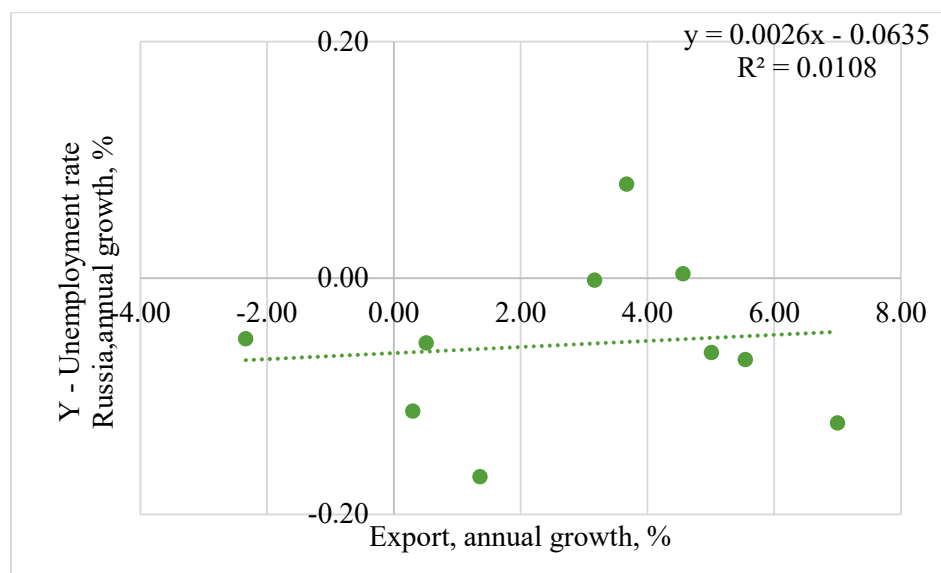
Source: author, data ILO (2021) and World Bank (2021)

Appendix D Inflation and unemployment rate in Russia, 2010-2019

	Inflation, annual growth, %	Unemployment rate, annual growth, %
2010	6,8	-0,12
2011	8,4	-0,11
2012	5,1	-0,17
2013	6,8	0,00
2014	7,8	-0,05
2015	15,5	0,08
2016	7,0	0,00
2017	3,7	-0,06
2018	2,9	-0,07
2019	4,5	-0,05
2020	-	0,25

Multiple R	0,597	59,7 % (very weak correlation)
R Square	0,357	35,7 % (very low reliability)
P-value	0,05	Selected confidence level 0,05 (95 %)
Significance F	0,068	More than P-value (0,05), model is not statistically significant if P-value is 0,05 Less than P-value (0,1), model is stastically significant of P-value is 0,1
Observations	10	Number of observations
Regression line	$Y = \beta_0 + \beta_1 x$	Y = 0,0119x – 0,1378

$y = 0.0119x - 0.1378$
$R^2 = 0.3566$

Y - Unemployment rate Russia,annual growth, %

Inflation, annual growth, %

Source: author, data ILO (2021) and World Bank (2021)