REVISTA INCLUSIONES

Indización, Repositorios y Bases de Datos Académicas

Revista Inclusiones, se encuentra indizada en:

CATÁLOGO

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

BIBLIOTECA UNIVERSIDAD DE CONCEPCIÓN

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

THE SOCIO-CULTURAL DETERMINANTS
OF THE SHADOW ECONOMY IN MODERN RUSSIAN SOCIETY

Ph. D. (c) Olga Mikhaylovna Lizina
National Research Ogarev Mordovia State University, Saransk, Russia
ORCID: 0000-0001-7965-4151
lizinaom@yandex.ru
Ph. D. (c) Dinara Asymovna Bistyaykina
National Research Ogarev Mordovia State University, Saransk, Russia
ORCID: 0000-0001-9959-1995
dinaraas@mail.ru
Ph. D. (c) Eka Revazievna Ermakova
National Research Ogarev Mordovia State University, Saransk, Russia
ORCID: 0000-0001-8464-9605
eka-tsulaya@yandex.ru
Ph. D. (c) Tatiana Evgenevna Badokina
National Research Ogarev Mordovia State University, Saransk, Russia
ORCID: 0000-0001-9611-5715
badokinate@gmail.com
Ph. D. (c) Tatyana Vladimirovna Solovyeva
National Research Ogarev Mordovia State University, Saransk, Russia
ORCID: 0000-0002-2899-7514
tanysha_v@bk.ru

Abstract

Studies of the shadow economy are not only of scientific but also practical significance. The level of development of the shadow economy is important from the perspective of the development of any state; it determines the goals and priorities of state development. Shadow economy is one of the leading problems in Russia, which undermines the political system and poses a serious threat to the social security of the country. The aim of this work is to analyze the main social factors in the spread of the shadow economy throughout the Russian Federation. The article suggests and analyzes an original approach to measuring the shadow economy in the socio-cultural space. The research is based on factor analysis of official statistics showing over 300 indicators that characterize different spheres of state functioning collected in Russia from 1992 to 2019. The factors influenced by the shadow economy are identified.

Keywords

Shadow economy – Socio-cultural space – Social security – Russia – Security

Introduction

The problem of the shadow economy attracts the attention of both scientists and society as a whole. One of the consequences of the systemic crisis of society caused by destructive socio-economic and political changes, globalization, and total computerization over the last few decades is a virtually uncontrolled escalation of shadow and criminal activities. The scale and rates of growth shown by the shadow economy have turned it into one of the most serious threats not only to people's individual security but also to the stability of any state. The issues related to research into shadow economy[1] and the problems of its functioning and development are looked at by a great number of studies in various fields of knowledge[2]. Despite the huge number of works devoted to the issue of the shadow economy and the variety of approaches to the choice of corresponding criteria[3], there is still no common understanding of this phenomenon in the scientific community.Researchers from different countries are trying to estimate the range of shadow economy in certain regions; however, the problem of measuring the scale of the shadow economy remains insufficiently explored and very relevant for any state.

Among the foreign studies on the scale of shadow economy, the works by F. Schneider[4] enjoy the highest recognition. In the course of research into the shadow

---

[1] V. Bilotkach, "A Tax Evasion – Bribery Game: Experimental Evidence from Ukraine", The European Journal of Comparative Economics Vol: 3 num 1 (2006): 31–49; R. Dell'Anno, Estimating the shadow economy in Italy: A structural equation approach. Economics Working Papers, (2003-7) (Aarhus: University of Aarhus, 2003); R. Dell'Anno; M. Gómez-Antonio y A. Alanon-Pardo, "The shadow economy in three Mediterranean countries: France Spain and Greece. A MIMIC approach", Empirical Economics Vol: 33 num 1 (2007): 51–84; I. Vinnychuk y S. Žiukov, "Shadow economy in Ukraine: Modelling and analysis", Business Systems and Economics Vol: 3 num 2 (2013): 141–152 y F. Schneider, "The shadow economy in Germany: A blessing or a curse for the official economy?", Economic Analysis & Policy Vol: 38 num 1 (2008): 89–111.

[2] D. K. Bhattacharyya, "On the Economic Rationale of Estimating the Hidden Economy", The Economic Journal Vol: 109 num 456 (1999): 348-359; K. Chaudhuri; F. Schneider y S. Chattopadhyay, "The size and development of the shadow economy: An empirical investigation from states of India", Journal of Development Economics Vol: 80 num 2 (2006): 428–443; R. K. Goel y M. A. Nelson, "Shining a light on the shadows: Identifying robust determinants of the shadow economy", Economic Modelling Vol: 58 (2016): 351-364; L. Karlinger, "The underground economy in the late 1990s: Evading taxes, or evading competition?", World Development Vol: 37 num 10 (2009): 1600–1611; S. Estrin y T. Mickiewicz, "Shadow Economy and Entrepreneurial Entry", Review of Development Economics Vol: 16 num 4 (2012); U. Mazhar y P.-G. Méon, "Taxing the unobservable: The impact of the shadow economy on inflation and taxation", World Development Vol: 90 (2017): 89-103 y A. Prinz y H. Beck, "In the shadow of public debt: are there relations between public debt and the shadow economy?", Econ. Anal. Policy num 42 (2012): 221–236.

[3] B. S. Frey y H. Weck-Hanneman, "The hidden economy as an unobserved variable", European Economic Review Vol: 26 (1984): 33–53; L. Gaspareniene y R. Remeikiene, "Digital Shadow Economy: a Critical Review of the Literature", Mediterranean Journal of Social Sciences Vol: 6 num 6(S5) (2015): 402–409; L. Gaspareniene; R. Remeikiene y M. Heikkilä, "Evaluation of the impact of shadow economy determinants: ukrainian case", Intellectual Economics Vol: 10 num 2 (2016): 108-113; P. Restrepo-Echavarria, "Measuring Underground Economy Can Be Done, but It Is Difficult", Regional Economist (2015): 1-2 y G. Startienė y K. Trimonis, "Causes of Non-Observed Economy", Economics and Management num 16 (2011): 380–386.

[4] F. Schneider, Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2012: Some new facts (2012). Retrieved from: http://www.seipa.edu.pl/s/p/artykuly/93/931/Shadow%20Economy%20up%20to%202012.pdf; F. Schneider, Size and development of the shadow economy of 31 European countries from 2003 to

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

economy of 36 developed and developing countries of the European Union, a combined approach was used based on econometric analysis of extensive statistical data and analysis of results obtained during surveys. The aim of this work is to analyze the main factors that influence the spread of the shadow economy throughout the Russian Federation. The aim of the research has defined the following tasks:

1.   Carry out analysis of scientific literature and research.

2.   Explore the indicators that characterize different spheres of social activity and identify the factors influenced by the shadow economy with the use of factor analysis.

3. Determine the share of the shadow component in the economy of Russia.

Literature review

Different approaches to the definition and content of the shadow economy have been developed in the scientific literature. According to the most common definition of the shadow economy, it is understood as unregistered types of economic activity that contribute to the officially calculated gross national product[5]. F. Schneider provides a narrow definition of the shadow economy as all goods and services the income from which is deliberately concealed from public authorities to avoid payment of income, value-added, or other taxes and social security contributions or to avoid having to meet certain legal labor market standards, such as minimum wages, maximum working hours, safety standards, etc.[6]

In our opinion, the shadow economy can be defined as a system of special economic relations arising between individuals, groups of people, and institutional units in the sphere of production, distribution, redistribution, exchange, and consumption of material goods and services. Such relations are determined by the general state of the economy, living standards, and the restrictions imposed by the government.

2013. March 2013; F. Schneider, "Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2014: Different Developments?", Journal of Self-Governance & Management Economics Vol: 3 num 4 (2015): 7-29; F. Schneider, "Estimating the Size of the Shadow Economies of Highly developed Countries: Selected New Results", CESifo DICE Report num 4 (2016): 44-53 y F. Schneider, "Implausible Large Differences of the Size of the Underground Economies in Highly Developed European Countries? A Comparison of Different Estimation Methods", CESifo Working Papers num 6522, June 2017.

[5] V. Tanzi, "Uses and Abuses of Estimates of the Underground Economy", The Economic Journal Vol: 109 num 456 (1999): 338-340; J. J. Thomas, "Quantifying the Black Economy: 'Measurement without Theory' Yet Again?", The Economic Journal Vol: 109 num 456 (1999): 381-389; D. E. A. Giles, "Measuring the hidden economy: Implications for econometric modelling", The Economic Journal Vol: 109 (1999): 370-380; D. E. A. Giles, "Modelling the hidden economy in the tax-gap in New Zealand", Empirical Economics Vol: 24 num (4) (1999): 621-640; S. Pedersen, The Shadow Economy in Germany, Great Britain and Scandinavia: A Measurement Based on Questionnaire Service. Study num 10 (Copenhagen: The Rockwoll Foundation Research Unit, 2003); M. González-Fernández y C. González-Velasco, "Shadow Economy, Corruption and Public Debt in Spain", Journal of Policy Modeling Vol: 36 num 6 (2014) y H. Herwartz, E. Tafenau, F. Schneider, "One share fits all? Regional variations in the extent of the shadow economy in Europe", Regional Studies Vol: 49 num 9 (2015): 1575–1587.

[6] F. Schneider, A. Buehn, C.E. Montenegro, "Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007", Policy Research Working Paper num 5356, 2010.

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

In economic science, there are different methods of measuring the level and scale of the shadow economy. Generally, they can be divided into direct and indirect.

Direct methods include those based on the information obtained in the course of direct observation of the participants of shadow relations[7]. Direct methods include examinations, surveys, and government audits.

Meanwhile, the most commonly used methods are indirect[8]. They include methods based on analysis of official statistics and data collected by ministries, government agencies, and specialized services. This group is represented by monetary, balance, resource, expert, and other methods.

Depending on the scale of the conducted examination, all methods can be classified into macro and micro methods. Each of them can be applied in certain conditions and different spheres of social relations. All diagnostic methods are used within different branches of science depending on the subject of research. At the micro level, methods of social studies and criminology are used to study the informal sector of the economy. For the purposes of studying the macro processes of non-observed economy, methods of econometrics are used, often along with expert surveys.

Therefore, there is no single ideal method of estimation of the shadow economy. In order to estimate the size of the shadow economy at the regional level, it is necessary to take into consideration the geographical location, historical aspects, socio-political structure, political system, demographic situation, standards of living, development of infrastructure, and certain institutions in society. The necessity to consider the above-mentioned factors explains why the theoretical approaches and methods of estimation of the shadow component suggested by foreign researchers are hardly applicable in Russia.

Materials and methods

The most appropriate method of estimating the size of the shadow economy is the MIMIC approach, which takes into account several factors and indicators and allows researchers to analyze the whole of the shadow economy.

---

[7] E. L. Feige, "How big is the irregular economy?", Challenge num 22 (1979): 5–13; E. L. Feige, "Defining and Estimating Underground and Informal Economies: The New Institutional Economics Approach", World Development num 7 (1990): 989–1002 y I. I. Eliseeva; A. N. Shirina y E. B. Kapralova, "Determining the volume of shadow activity based on macroeconomic indicators", Questions of statistics: Scientific and informational journal num 4 (2004): 18-31.

[8] H. Ahumada; F. Alvaredo y A. Canavese, "The Monetary method to measure the size of the shadow economy: a critical examination of its use", Revue économique Vol: 60 num 5 (2009): 1069–1078; D. K. Bhattacharyya, "On the Economic Rationale of Estimating the Hidden Economy", The Economic Journal Vol: 109 num 456 (1999): 348-359; S. Pedersen, The Shadow Economy in Germany, Great Britain and Scandinavia: A Measurement Based on Questionnaire Service. Study num 10 (Copenhagen: The Rockwoll Foundation Research Unit, 2003); M. Ruge, "Determinants and Size of the Shadow Economy – A Structural Equation Model", International Economic Journal Vol: 24 num 4 (2010): 511-523.v; E. Tafenau; H. Herwartz y F. Schneider, "Regional estimates of the shadow economy in Europe", International Economic Journal Vol: 24 num 4 (2010): 629–636; V. Tanzi, "Uses and Abuses of Estimates of the Underground Economy", The Economic Journal Vol: 109 num 456 (1999): 338-340 y V. Tanzi, "The Underground Economy in the United States: Annual Estimates, 1930-80", International Monetary Fund Staff Papers num 30 (1983): 283–305.

In this model, the size of the shadow economy is a latent variable connected, on the one hand, with a certain number of observed indicators (reflecting changes in the volume of shadow economy) and, on the other hand, with a set of observed causal variables, which are viewed as some of the most important indicators of underground economic activity.

Over 300 factors were analyzed in the course of this research with the help of principal component analysis based on the determination of the minimum number of orthogonal factors making the greatest contribution to data dispersion. It is supposed that there is a linear connection between lateral factors and observed variables. Consistent identification of the most general factors allows us to take into consideration the highest feature dispersion degree. Each following factor determines the share of remaining dispersion and is orthogonal to all previous ones. Consequently, all factors are independent of each other.

In order to determine the number of factors included in the model, two criteria are used: a scree test and the Kaiser criterion.

A scree test is a graphic method aimed at finding the "elbow" of a graph where the decrease of eigenvalues from the left to the right is the slowest. In our case, a reasonable number of factors is ten (Figure 1).
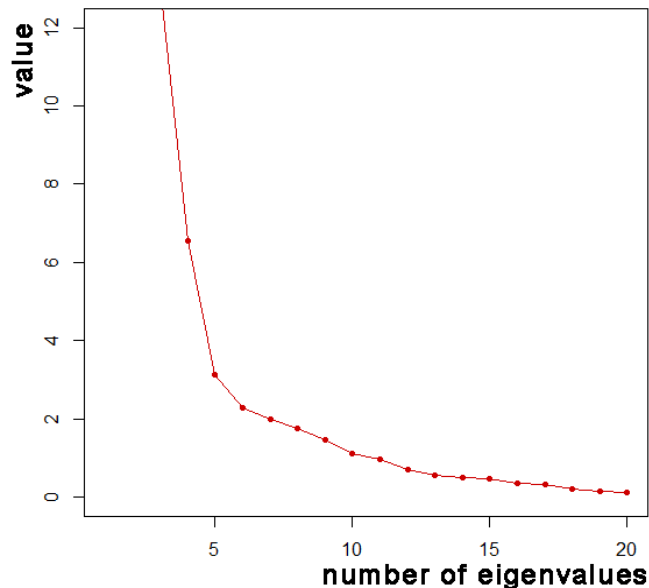
Figure 1
A scree test to determine the number of indicating factors

Based on the Kaiser criterion, only factors with eigenvalues greater than 1 are selected. Essentially, it means that if the factor does not cause dispersion equivalent at least to the dispersion of one variable, it is omitted. In the given task, 12 factors (12 principal components) should be retained based on this criterion; however, the eigenvalues of the last two factors are close to 1, which is why they were not taken into consideration.

The Kaiser criterion sometimes retains too many factors while a scree test sometimes retains too few factors. Nevertheless, both of these criteria are effective under

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

normal conditions, when there is a relatively small amount of factors and a lot of variables. From the perspective of the practical application of developed models, content interpretation of the results is important, which is why models with a higher and lower number of factors were analyzed within this research, based on which the most optimal number was chosen.

The rotation method allows for achieving the highest interpretability of factor loading without changing the number of factors. As a result of the rotation of axes, new factors are identified as a linear combination of the existing factors, which maximizes the dispersion of factor loading squares. This enabled us to provide a more accurate interpretation of results.

The results of factor analysis determined the choice of variables used to develop the model of their interconnection with the shadow economy. Consumption of electricity and the employment rate were chosen as indicator variables reflecting certain dimensions of business activity in society and connected with the level of the shadow economy.

Index values obtained through a structural equation can be converted into the size of the shadow economy using the reference value in the current year:

$$Shadow_t = \frac{Shadow_{index\_t}}{Shadow_{index\_base}} Shadow_{base},$$

where $Shadow_{index\_t}$ is the value of the MIMIC index in the period of time calculated using the equation (1) t, $Shadow_{index\_base}$ is the reference value of the index over the period under examination, $Shadow_{base}$ is the reference value of shadow economy over the period under examination.

Results

Using the approach described above, we conducted a factor analysis of interconnections between the indicators characterizing various aspects of social activity over the period from 1992 to 2008. The employment rate was used as a normalization variable. All variables were viewed as the average growth of the initial statistical data over the period under examination.

In the course of the factor analysis, seven indicators were identified, which can be conditionally divided into the following groups: economic factors, criminalization factors (breaches of the law), education (a factor in socialization of society), and communications (the key factor in the development of information society).

The factors of criminalization and socialization of society turned out to be the most significant ones for the social space.

There are plenty of factors that determine the shadow economy, including social ones. Among these factors, three groups of reasons leading to the emergence and existence of the problem of shadow economy expansion in modern Russia can be identified.

The first group of factors (macro factors) reflects the state of society in general, including social structures and institutions (among other things, family). For instance, modern Russian society is characterized by a crisis of the social system in general and all of its components in particular. It can manifest itself as a crisis of the moral and spiritual

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

sphere (in the 1990s, the old ideology and value system fell apart but nothing has replaced them); weakening of social control coupled with the extension of individual freedom; a crisis of the education and upbringing system; a threat to national security (a growing number of terrorist attacks, etc.), and a decline of the institutions of family, parenthood, and kinship. The decline of the institutions of family, parenthood, and kinship shows in a high divorce rate (up to half of the registered marriages) and, as a consequence, a growing share of single-parent families; in a low birth rate, which is insufficient for the necessary reproduction of the population; in isolation of matrimonial and reproductive behavior and upbringing. Apart from that, these factors are aggravated by the virtually full absence of laws and measures aimed at the protection of moral values in modern society.

We also identified the following group of factors influencing the spread of the shadow economy in social culture.

On the one hand, the second group of factors (meso factors) is a consequence of the problem of the shadow economy; on the other hand, it leads to the emergence of the above-mentioned macro factors. This group includes material inequality, growth of deviant and delinquent behavior in different age groups (different types of crime, etc.), unemployment, etc.

The third group of factors that underlie the existence of the shadow economy in Russia is represented by micro factors. Examination of factors characterizing socio-cultural environment shows that they include: microclimate (moral and psychological background); living conditions; the level of education; culture of relations; family traditions; personal characteristics (the level of individualism and egoism).

The main reasons behind the existence of the shadow economy in the socio-cultural space are presented in Figure 2.
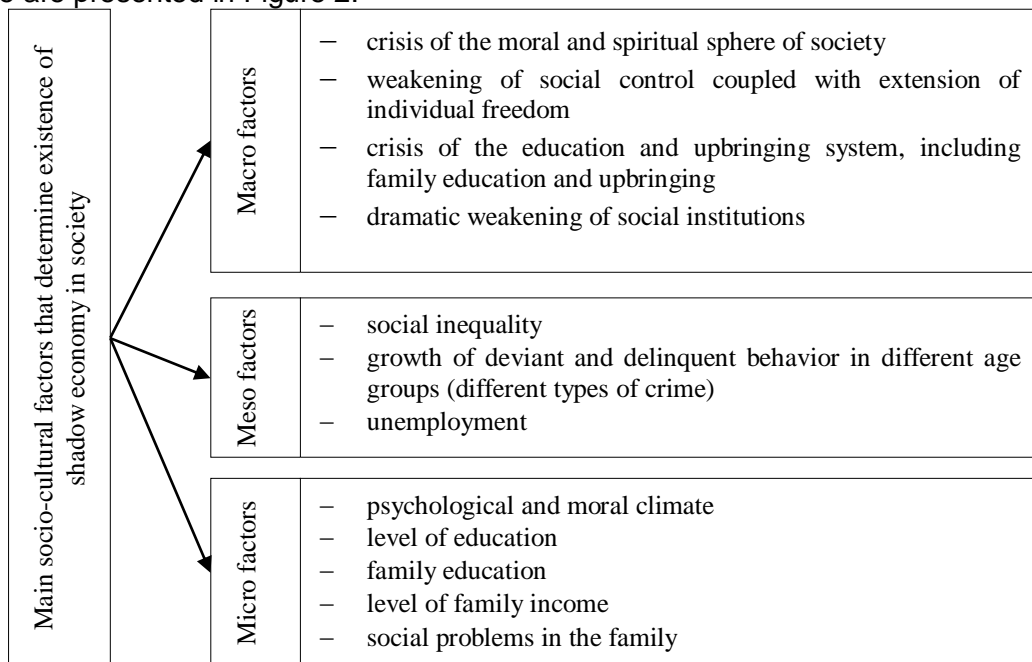
Figure 2
Socio-cultural determinants of the shadow economy in the modern socio-cultural space

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

The results of factor analysis determined the choice of variable reasons used to develop the MIMIC model.

Consumption of electricity ((million kW·h)/GDP in current prices) and the employment rate (%) were chosen as indicator variables for measuring the business activity and indicating the level of the shadow economy.

The calculations were carried out in the RStudio environment with the use of the lavaan package. The results of the estimation of the variables are represented in Tables 1 and 2.

Indicator	Identifying code	Value
Number of state and municipal educational institutions	EDU	−0.006
Number of registered crimes, thous.	CRIM	0.013
Number of road accidents, thous.	R_ACCI	0.002
Production and import taxes	TAX	1.151
Production and import subsidies	SUBS	0.529
Postal bank transfers sent, million	M_TRANS	0.129
Income from cellular communication services provided to the population, million rubles	CELL_SERV	1.934

Table 1
The result of estimation of variable reasons in the MIMIC model

MIMIC coefficients characterize the structure of the shadow economy over a certain period and allow it to determine its approximate size.

Root-mean-square error of approximation (RMSEA)	0.000
P-value ($RMSEA \leq 0.05$)	0.584
CFI (comparative fit index)	1.000
TLI (Tucker-Lewis index)	1.012
Number of degrees of freedom	28

Table 2
Quality indexes of model fitting

Thus, based on the results of the developed MIMIC model, we received the following structural equation for calculation of the shadow economy index:

$$HADOW = -0.006\,EDU + 0.013\,CRIM + 1.151\,TAX + 0.529\,SUBS + 0.002\,R\_ACCI + 0.129\,M\_TRANS + 1.934\,CELL\_SERV \quad (1)$$

As a result, the volume of the shadow economy in Russia was calculated (Table 3). Figure 3 shows the changes from 1992 to 2019.

Year	1992	1993	1994	1995	1996	1997	1998
Shadow economy, % of GDP	31.49000	244.18221	130.63947	136.15905	68.11923	60.51090	51.65733
In billion rubles	5.98	418.77	797.82	1,945.03	1,367.70	1,417.47	1,358.38

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

Year	1999	2000	2001	2002	2003	2004	2005
Shadow economy, % of GDP	70.05061	65.64142	46.40896	51.72561	46.07877	49.51288	51.24211
In in billion rubles	3,378.68	4,795.50	4,150.63	5,602.16	6,086.19	8,430.65	11,073.30
Year	2006	2007	2008	2009	2010	2011	2012
Shadow economy, % of GDP	44.26578	41.05402	41.97649	29.39523	41.70468	34.44731	35.66538
In billion rubles	11,915.11	13,649.44	17,326.55	11,407.47	19,312.83	20,765.71	11,915.11
Year	2013	2014	2015	2016	2017	2018	2019
Shadow economy, % of GDP	32.82150	34.41563	28.85617	39.04481	41.46589	40.78871	37.3039
In billion rubles	24,003.64	27,208.48	23,977.83	33,584.08	38,190.64	42,369.60	40,796.10

Table 3
The size of the shadow economy in the Russian Federation
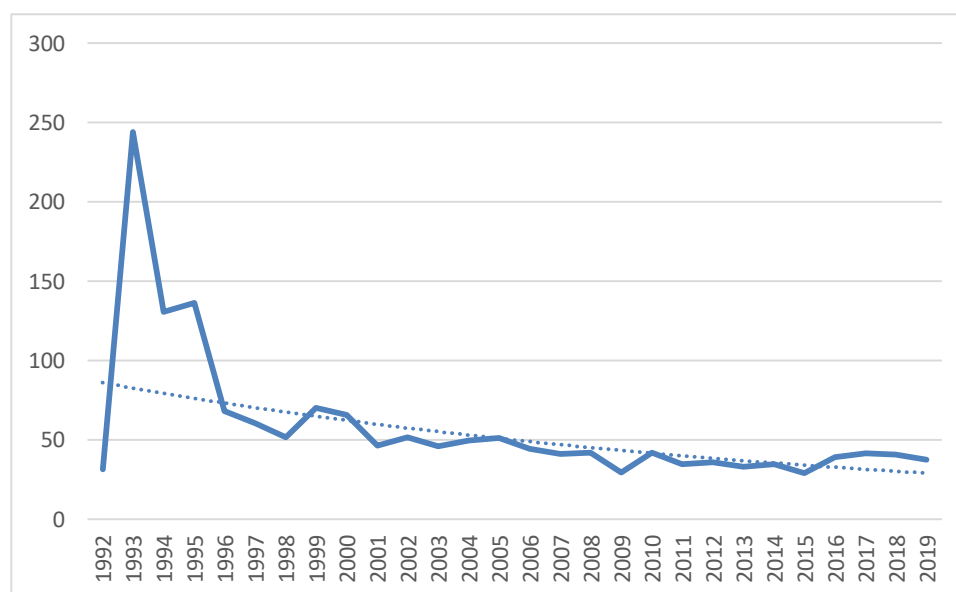
Figure 3
Shadow economy in Russia, % of GDP

Discussion

Shadow economy is a complex and multifaceted phenomenon that embraces all spheres of social activity. In our opinion, research into the reasons and interconnections of the shadow economy only from the economic, political, or social perspectives is incomplete.

The results of this research have shown that economic and social factors influence the level of the shadow economy to a significant degree.

Unfortunately, shadow economic relations are becoming more and more attractive for a considerable share of the population, thus turning into an organic part of modern society.

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

It entails serious consequences, not only economic but also social: moral norms are destroyed, many social institutions are replaced with less effective alternatives, and political consciousness, the cultural level, and intellectual development are changing. The results of this research correlate with the conclusions made by foreign researchers who have studied the influence of the shadow economy on education and the level of the intellectual development of the population[9].

The increase in the volume of shadow economy cannot be fully attributed to the inefficiency of work conducted by law enforcement authorities and imperfection of the legislation as suggested by many researchers[10]. The source of this phenomenon should be sought in the causes and conditions that have led to its emergence, namely in the socio-economic policy of the state.

Conclusion

The problem of the shadow economy is one of the most relevant issues both in Russia and in the world in general. The research carried out and described in this article allowed us to draw the following conclusions.

1. Today, there is no single common paradigm in the methodology of measuring the size of the shadow economy. In the scientific community, there are several methods developed by different authors, each of which focuses only on a certain part of the shadow economic relations. According to researchers, the most optimal research method is the MIMIC model. Within this model, the size of the shadow economy is a latent variable connected, on the one hand, with a certain number of observed indicators (reflecting the changes in the volume of shadow economy) and, on the other hand, with a set of observed causal variables, which are viewed as some of the most important indicators of underground economic activity.

2. Shadow economy influences different categories of population, the most vulnerable of which is family. The danger of a stagnant lack of work and shortage of means of subsistence is that it leads to irreversible changes in the lifestyle of a family, which start functioning as independent factors.

3. Analysis of scientific literature allowed us to identify the main factors in the shadowing of modern social processes. They include such general factors as economic, administrative, political, legal, social, demographic, and other ones.

4. The determinants of the shadow economy on social culture can be classified into macro, meso, and micro factors.

---

[9] D. Coady y J. Dreze, "Commodity Taxation and Social Welfare: The Generalised Ramsey Rule", International Tax and Public Finance Vol: 9 (2002): 295–316; J. S. Hellman; G. Jones y D. Kaufmann, "Seize the State, Seize the Day: State Capture, Corruption and Influence in Transition", World Bank Policy Research Working Paper num 2444. September 2000 y J. S. Hellman; G. Jones; D. Kaufmann y M. Schankerman, "Measuring Governance Corruption and State Capture. How Firms and Bureaucrats Shape the Business Environment in Transition Economies", Policy Research Working Paper num 2312. April 2000.

[10] S. Rose-Akkerman, Corruption and the State. Causes, effects, reform (Moscow: Logos, 2003) y S. Xenakis y L. K. Cheliotis, "Crime and Economic Downturn: The Complexity of Crime and Crime Politics in Greece since 2009", British Journal of Criminology Vol: 53 num 5 (2013): 719–745.

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

5. Shadow economy leads to the ill-being of modern society since it contributes to the destruction of social institutions and a decline in the living standards of most families; besides, it encourages immoral conduct and parasitism as a normal way of living, etc.

Acknowledgment

References

Ahumada, H.; Alvaredo, F. y Canavese, A. "The Monetary method to measure the size of the shadow economy: a critical examination of its use". Revue économique Vol: 60 num 5 (2009): 1069–1078.

Bhattacharyya, D. K. "On the Economic Rationale of Estimating the Hidden Economy". The Economic Journal Vol: 109 num 456 (1999): 348-359.

Bilotkach, V. A Tax Evasion – Bribery Game: Experimental Evidence from Ukraine. The European Journal of Comparative Economics Vol: 3 num 1 (2006): 31–49.

Chaudhuri, K.; Schneider, F. y Chattopadhyay, S. "The size and development of the shadow economy: An empirical investigation from states of India". Journal of Development Economics Vol: 80 num 2 (2006): 428–443.

Coady, D. y Dreze, J. "Commodity Taxation and Social Welfare: The Generalised Ramsey Rule". International Tax and Public Finance Vol: 9 (2002): 295–316.

Dell'Anno, R. Estimating the shadow economy in Italy: A structural equation approach. Economics Working Papers, (2003-7). Aarhus: University of Aarhus. 2003.

Dell'Anno, R.; Gómez-Antonio, M. & Alanon-Pardo, A. "The shadow economy in three Mediterranean countries: France Spain and Greece". A MIMIC approach. Empirical Economics Vol: 33 num 1 (2007): 51–84.

Eliseeva, I. I.; Shirina, A. N. y Kapralova, E. B. "Determining the volume of shadow activity based on macroeconomic indicators". Questions of statistics: Scientific and informational journal num 4 (2004): 18-31.

Estrin, S. y Mickiewicz, T. "Shadow Economy and Entrepreneurial Entry". Review of Development Economics Vol: 16 num 4 (2012).

Feige, E. L. "Defining and Estimating Underground and Informal Economies: The New Institutional Economics Approach". World Development num 7 (1990): 989–1002.

Feige, E. L. "How big is the irregular economy?". Challenge num 22 (1979): 5–13.

Frey, B. S. y Weck-Hanneman, H. "The hidden economy as an unobserved variable". European Economic Review Vol: 26 (1984): 33–53.

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

Gaspareniene, L. y Remeikiene, R. "Digital Shadow Economy: a Critical Review of the Literature". Mediterranean Journal of Social Sciences Vol: 6 num 6(S5) (2015): 402–409.

Gaspareniene, L.; Remeikiene, R. y Heikkilä, M. "Evaluation of the impact of shadow economy determinants: ukrainian case". Intellectual Economics Vol: 10 num 2 (2016): 108-113.

Giles, D. E. A. "Measuring the hidden economy: Implications for econometric modelling". The Economic Journal Vol: 109 (1999). 370-380.

Giles, D. E. A. "Modelling the hidden economy in the tax-gap in New Zealand". Empirical Economics Vol: 24 num (4) (1999): 621-640.

Goel, R. K. y Nelson, M. A. "Shining a light on the shadows: Identifying robust determinants of the shadow economy". Economic Modelling Vol: 58 (2016): 351-364.

González-Fernández, M. y González-Velasco, C. "Shadow Economy". Corruption and Public Debt in Spain Journal of Policy Modeling Vol: 36 num 6 (2014).

Hellman, J. S.; Jones, G. y Kaufmann, D. Seize the State, Seize the Day: State Capture, Corruption and Influence in Transition. World Bank Policy Research Working Paper num 2444. September 2000.

Hellman, J. S.; Jones, G.; Kaufmann, D. y Schankerman, M. Measuring Governance Corruption and State Capture. How Firms and Bureaucrats Shape the Business Environment in Transition Economies. Policy Research Working Paper num 2312. April 2000.

Herwartz, H.; Tafenau, E. y Schneider, F. "One share fits all? Regional variations in the extent of the shadow economy in Europe". Regional Studies Vol: 49 num 9 (2015): 1575–1587.

Karlinger, L. "The underground economy in the late 1990s: Evading taxes, or evading competition?". World Development Vol: 37 num 10 (2009): 1600–1611.

Mazhar, U. y Méon, P.-G. "Taxing the unobservable: The impact of the shadow economy on inflation and taxation". World Development Vol: 90 (2017): 89-103.

Pedersen, S. The Shadow Economy in Germany, Great Britain and Scandinavia: A Measurement Based on Questionnaire Service. Study num 10. Copenhagen: The Rockwoll Foundation Research Unit. 2003.

Prinz, A. y Beck, H. "In the shadow of public debt: are there relations between public debt and the shadow economy?". Econ. Anal. Policy num 42 (2012): 221–236.

Restrepo-Echavarria, P. "Measuring Underground Economy Can Be Done, but It Is Difficult". Regional Economist (2015): 1-2.

Rose-Akkerman, S. Corruption and the State. Causes, effects, reform. Moscow: Logos. 2003.

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA

Ruge, M. "Determinants and Size of the Shadow Economy – A Structural Equation Model". International Economic Journal Vol: 24 num 4 (2010): 511-523.

Schneider, F. "Estimating the Size of the Shadow Economies of Highly developed Countries: Selected New Results". CESifo DICE Report num 4 (2016): 44-53.

Schneider, F. Implausible Large Differences of the Size of the Underground Economies in Highly Developed European Countries? A Comparison of Different Estimation Methods. CESifo Working Papers num 6522, June 2017.

Schneider, F. Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2012: Some new facts (2012). Retrieved from: http://www.seipa.edu.pl/s/p/artykuly/93/931/Shadow%20Economy%20up%20to%202012.pdf

Schneider, F. Size and development of the shadow economy of 31 European countries from 2003 to 2013. March 2013.

Schneider, F. "Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2014: Different Developments?". Journal of Self-Governance & Management Economics Vol: 3 num 4 (2015): 7-29.

Schneider, F. "The shadow economy in Germany: A blessing or a curse for the official economy?". Economic Analysis & Policy Vol: 38 num 1 (2008): 89–111.

Schneider, F.; Buehn, A. y Montenegro, C. E. Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007. Policy Research Working Paper num 5356, 2010.

Startienė, G. y Trimonis, K. "Causes of Non-Observed Economy". Economics and Management num 16 (2011): 380–386.

Tafenau, E.; Herwartz, H. y Schneider, F. "Regional estimates of the shadow economy in Europe". International Economic Journal Vol: 24 num 4 (2010): 629–636.

Tanzi, V. "The Underground Economy in the United States: Annual Estimates, 1930-80". International Monetary Fund Staff Papers num 30 (1983): 283–305.

Tanzi, V. "Uses and Abuses of Estimates of the Underground Economy". The Economic Journal Vol: 109 num 456 (1999): 338-340.

Thomas, J. J. "Quantifying the Black Economy: 'Measurement without Theory' Yet Again?". The Economic Journal Vol: 109 num 456 (1999): 381-389.

Vinnychuk, I. y Žiukov, S. "Shadow economy in Ukraine: Modelling and analysis". Business Systems and Economics Vol: 3 num 2 (2013): 141–152.

Xenakis, S. y Cheliotis, L. K. "Crime and Economic Downturn: The Complexity of Crime and Crime Politics in Greece since 2009". British Journal of Criminology Vol: 53 num 5 (2013): 719–745.

REVISTA INCLUSIONES M.R.
REVISTA DE HUMANIDADES
Y CIENCIAS SOCIALES

CUADERNOS DE SOFÍA
EDITORIAL

PH. D. (C) OLGA MIKHAYLOVNA LIZINA / PH. D. (C) DINARA ASYMOVNA BISTYAYKINA
PH. D. (C) EKA REVAZIEVNA ERMAKOVA / PH. D. (C) TATIANA EVGENEVNA BADOKINA
PH. D. (C) TATYANA VLADIMIROVNA SOLOVYEVA