

The resource regions resilience in the conditions of Industry 4.0. and the COVID-19 pandemic: theoretical and applied aspects

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Abstract. Currently, global changes are taking place, accompanied by a change in the socio-economic structure, in these conditions, states and societies lose their resistance to stress and become especially “fragile”, unable to maintain the integrity of their economic and socio-political structures. Within the framework of this article, the authors developed an interdisciplinary concept of the concept of stress resistance, which is most fully manifested during periods of global crises such as the economic transition to Industry 4.0 and the COVID-19 pandemic, and also made an attempt to form indicators for assessing the stress resistance of regions in the new economic and socio-political realities. The problem of stress resistance is becoming especially relevant for the resource regions of Russia. The concept of stress resistance is studied from the standpoint of economic and socio-political approaches. Within the framework of this article, under the concept of resistance to stress, the authors consider the state of stability of all levels of government in relation to stressful situations in the economic, social and political spheres of society, as well as the ability to develop adaptive mechanisms based on forms of strategic partnership between the state and society, in particular civil society institutions. The aim of the study was to develop the main risk factors and factors-stabilizers of stress resistance at the regional level in the context of the global crisis, influencing the system of interaction between government institutions and society. The factors-stabilizers of stress resistance at the regional level are distinguished. Taking into account Industry 4.0 and COVID-19 in the Russian Federation, such "points of growth" may be changes in the modernization of medicine, support from the state for business and non-governmental organizations. Measures to provide stabilization measures to support various categories of the population were taken as a “point”, but quite justified measure to support the economic level of development of regional economies and stabilize the situation in the social sphere

1. Introduction

Currently, society is undergoing a major crisis associated with a radical change in the social and economic paradigm including the formation of Industry 4.0 and digitalization accompanied by the breakdown of economic ties, crushing of the existing socio-political systems and relations, both at the global and national levels. Under these conditions, states and societies lose their resilience and become especially “fragile”, unable to maintain the integrity of their economic and socio-political structures. The dramatics of the situation is aggravated by the rapid spread of the coronavirus pandemic, which also puts states and societies to the test.



In this article, the authors developed an interdisciplinary concept of resilience which is most fully manifested during periods of global crises such as the current COVID-19 pandemic, and also made an attempt to develop indicators for assessing regions' resilience in new economic, social and political reality.

The aim of the study was to develop the main risk factors and stabilizing factors of resilience that affect the system of interaction between institutions of government and society at the regional level in the context of the global crisis.

2. Material and methods

A major research problem in studying the concept of resilience is the choice of tools for its assessment, the so-called stress factors and stabilizing factors which are decisive in the interpretation of the notion "resilience". In this regard, the study basis was formed with the authors' own developments [1, 2, 3], an interdisciplinary approach involving the synthesis of the political resilience concept of D. Chandler [4] with the social concept of alternative forms of resilience of M. Kousis, M. Paschou and M. Giovannini [5, 6], which made it possible to adapt the concept to the conditions of Russian regions. When analyzing crisis phenomena mainly in the economic sphere, the model of economic resilience by R. Martin, R. Sunley and others was used. Along with this, the systemic and institutional approaches were applied to studying the current economic and socio-political situation in the regions.

3. Results and discussion

The concept of resilience in economic, social and political studies was borrowed from psychology in the early 1970s. It was first applied to these research areas in K. Holling's "Resilience and stability of ecological systems", where the resistance to stress was separated from the stability of ecological systems and was defined as "a measure of the persistence of systems and their ability to absorb change and disturbances and still maintain the same relationships between populations or state variables" [7].

In the literature, the interest in countries' and regions' resilience has always increased sharply during periods of economic and political crises: the financial crisis of 2008, Brexit, environmental disasters, pandemics, etc. So, after the 2008 crisis, in the period between 2016–2018 special issues of international journals were published on various aspects of resilience [8, 9].

Today, three main discourses can be distinguished in resilience studies: ecological, which is focused on the ability of ecosystems to change under the influence of shocks, while maintaining their main features; economic, associated with the analysis of the ability of countries, regions and industries to neutralize external and internal shocks in the short term, and to choose the optimal trajectory of development in the long term; and socio-political, in which resilience is understood as the ability of political authorities, public organizations and other communities as institutions of civil society to ensure the stability and survival of society during a crisis and to maintain the integrity of its socio-political system.

In this study, the last two discourses are of greatest interest, the economic approach to resilience being the most developed one.

Most of the economic research in resilience is aimed at studying the diversity of the dynamics of the crisis development and the differences in its manifestation in different spatial environments (states, regions, cities, etc.) [10, 11]. In economic research, much attention is paid to determining the time boundaries of crises and identifying risk factors, the reasons for differences in regional reactions to external shocks, including the sectoral composition of economic activity and the degree of its diversity. Much attention is paid to the share of the public sector in the economy, the level of human capital development and the intensity of innovation.

The economic approach to the research problem is quite operationalized and formalized. The widespread use of the mathematical apparatus in the economic resilience studies, including methods of descriptive statistics, allows the authors to identify the most problematic areas and regions, raise the question of not only current, but also long-term resilience, make sufficiently reliable forecasts about

the prospects for the crisis development, as well as to propose forms and mechanisms for maintaining resilience.

Recently, economic studies in resilience have paid much attention to various social and political institutions and structures, formal and informal mechanisms of interaction between the state, business and civil society institutions in order to maintain resilience. Among the most studied mechanisms are public-private partnerships, licenses for social activities, and corporate social responsibility [12]. So far, these studies have been of an establishment nature. Nevertheless, the first interdisciplinary economic and political studies and projects have appeared that study the problems of regional resilience at the junction of economics and politics [13]. Further studies in these issues can be expected to develop in the direction of strengthening the interdisciplinary context by means of combining the economic approach with sociological and political studies.

The political and social aspects of resilience have been studied to a lesser extent. There is no commonly accepted definition of the very concept of resilience. Very often, in political and social studies the idea of resilience to stress is very broad and descriptive and is defined as “a process of patterned adjustments adopted by a society, a group, or an individual in the face of endogenous or exogenous shocks...” [14].

The social and political studies of resilience demonstrate a kind of dichotomy: political research is mainly focused on the study and search for the possibility of preserving existing political institutions, researchers are interested in “features of any subject of political life which allow him to maintain its status quo, that is, to return to condition as close as possible to the initial one after external or internal impact”, the emphasis is on the current resilience [15].

Sociologists are more interested in the problems of “critical resilience” and alternative forms of resilience – social communities and institutions that ensure the survival of vulnerable groups of society, women, social minorities or marginalized people, as well as the in activities of social communities that undermine the current social and political system [16]. This dichotomy is a manifestation of the traditions of the neoliberal approach to the study of social and political processes focusing on the need to limit the interference of political institutions in economic and social life. In this study it is suggested that under the current conditions it is necessary to overcome this dichotomy and shift the focus of research to various forms of strategic interaction of political institutions of the state, various institutions of the social community and economic institutions that can maintain the current and long-term resilience of regions and areas.

In Russian political and sociological discourse, the term resilience is used extremely rarely, to a greater extent, in the context of foreign policy relations between Russia and the EU. The mathematical apparatus in Russian studies of resilience is virtually absent. The approach to the institutional resilience issues can be found in economic institutional studies focused on the Russian resource-type regions [17, 18].

In this article, the authors consider resilience as the state of stability of all levels of government in relation to stressful situations in the economic, social and political areas of society, as well as the ability to develop adaptive mechanisms based on the forms of strategic partnership between the state and society, in particular, civil society institutions.

As noted before, the global crisis caused by the transition to Industry 4.0. and COVID-19 pandemic placed the issue of the sustainability of the economy and political systems of states on the agenda. It should be noted that the introduction of voluntary lockdown in the Russian Federation and its regions, a suspension of the operation of government institutions and businesses, mandatory use of distance technologies in the educational process in universities and the secondary schools, problems in health care institutions due to the insufficient hospital admissions, especially in cities with over one million of population, and many other factors showed that the state and the regions proved unable to solve the problems that occurred with the previously available tools and methods. It was necessary to restructure the activities of state institutions and regional authorities promptly, to look for new ways to adapt to new realities regions with perfectly different practices of functioning of political institutions and civil society institutions that were formed by models of economic development. A particularly challenging

situation has developed in the work of regional socially-oriented non-profit organizations that receive funding from grants: the activities planned for implementation in a number of projects proved to be extremely difficult to transfer to online platforms [19]. A few months later it is still obvious that without the support of the federal authorities the regions would not be able to independently implement measures of social support for the population, despite the complete freedom of action given to them in choosing a development strategy. At the regional level, support measures have been introduced along with federal ones, and not only in the form of lump-sum payments to families with children, pensioners, the unemployed and businesses, but also in the form of individually allocated grocery baskets and subsidies to pay for housing and community amenities.

Thus, the main stress factors in the new reality proved to be crisis phenomena in business development, up to the termination of activities in entire sectors of the economy (suspension of the tourism industry, air communications, the sphere of cultural entertainment, etc.), a drop in the level of income of the population, or, even worse, falling into the groups of the unemployed, the growth in social tension, a leap in the crime rates and, in general, the crisis of the postmodern worldview and values accompanied by fatal sentiments of the population regarding their future.

The listed measures implemented at the federal and regional levels to stabilize the situation in the country confirms the correctness of the authors' assessment and indicates the formation of stabilizing factors of resilience at the regional level. Conventionally, these stabilizing factors can be divided into several groups: measures of economic support for business and individual groups of the population, in the social sphere – optimization of the work of institutions (health care) and the transition to a distance format (education, culture, sports, social security), government support socially oriented non-governmental organizations. The latter measure testifies to the development of new forms of strategic partnership between the state and society. In June–July 2020, a number of draft laws emerged that could significantly change the role of socially oriented non-governmental organizations in the regional space.

On June 8, 2020, during a meeting with representatives of social institutions and non-profit organizations, President of the Russian Federation V. Putin announced the start of a new competition for the Presidential Grants for NGOs intended for the period of fighting against coronavirus. The competition aims to support “socially oriented non-profit organizations that are involved in the fight against coronavirus infection and the consequences of its spreading” [20]. On the same day, Federal Law No. 172-FZ entered into force, exempting NGOs included in special registers (listing recipients of subsidies and grants under the programs of federal and regional executive authorities, local governments; recipients of grants from the President of the Russian Federation; providers of social services; and providers of publicly valuable services) from the payment of insurance deductions for the II quarter of 2020 (this money can be referred to salaries, utility bills, etc.).

Another novation was the development of a draft resolution “On Amending the Resolution of the Government of the Russian Federation No. 89 of January 26, 2017” by the Ministry of Justice of Russia on behalf of the Government of the Russian Federation. The resolution is required for the implementation of the law on listing socially oriented NGOs – winners of presidential grants on the Register of providers of publicly valuable services without additional assessment of the quality of services [21].

4. Conclusions

The recent economic, social and political changes have revealed a few most burning problems that the state may well turn to opportunities by reshaping the newly identified issues into future “points of growth” resilience through various support measures and the adoption of new development programs in modern reality. In the Russian Federation, such “points of growth” may be changes in the form of healthcare modernization, governmental support for businesses and non-governmental organizations. Activities aimed at providing stabilization measures to support various categories of the population acted as a “selected”, but quite justified arrangement to maintain the economic level of development of regional economies and stabilize the situation in the social sphere. It should also be noted that in case

of a further tightening of the voluntary lockdown for citizens and a return to restrictive measures in the economic sphere, new levers of risk management will be required. In this situation, further studies in the adaptation of regional economies and society to new challenges are necessary. Under these conditions, the regions will have to be more independent and need to develop regional models for overcoming the crisis.

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