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CULTURAL RESILIENCE IN THE REGIONS: FROM PANDEMIC SHOCK TO RECOVERY



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The aim of the study is to assess the cultural resilience of the regions (subjects of the Northwestern Federal District) to crises using the example of the COVID-19 pandemic. The scientific novelty lies in the substantiation and empirical confirmation that budget-funded cultural institutions can be characterized by resilience similar to commercial organizations, regions and national economies, which expands the boundaries of the applicability of the concept of resilience to the non-entrepreneurial sector. We developed a methodology for quantifying the cultural resilience of regions based on the aggregation of four indicators: volume of paid services, budget expenditures, number of employees, and attendance at cultural institutions. The information base was compiled by data from Rosstat, the Federal Treasury, AIS of the Ministry of Culture of the Russian Federation and EMISS for 2018–2023. We highlighted three levels of cultural resilience in the regions (low, medium, and high). We found that five regions of the Northwestern Federal District turned out to be the most resistant: the Kaliningrad, Pskov, Novgorod,

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Leningrad regions, and the Republic of Karelia (high level). The Vologda, Murmansk, Arkhangelsk regions, and the Komi Republic have an average level of resistance; Saint Petersburg is the only region with low resistance. The paper identified the geographical pattern: the western regions of the Northwestern Federal District demonstrate higher stability in the development of the cultural sphere compared to the eastern and northern regions. We established that the high resilience of the cultural sphere is achieved not only through budget financing, but also through the adaptation of paid services, while the personnel component has demonstrated the greatest stability in all regions, with the exception of the Vologda Region and the Komi Republic. Future research areas include expanding the set of indicators, taking into account the digital transformation of cultural services, and comparative analysis with other federal districts. The practical significance of the work lies in the possibility of using the results obtained to improve the mechanisms for managing the cultural sphere, developing targeted measures to support cultural institutions, as well as shaping cultural policy at the regional and federal levels.

Culture, regions, cultural policy, resilience, pandemic, COVID-19.

Introduction

The concept of resilience came to economics from ecology as a reflection of the ability of any system to recover from shocks and adapt to a changed environment (Walker, Cooper, 2011; Smorodinskaya, Katukov, 2021). In turn, the COVID-19 pandemic demonstrated the internal weaknesses of the cultural sphere and at the same time stimulated adaptation processes (Kosygina, Leonidova, 2025). Decree of the Government of the Russian Federation 434, dated April 3, 2020 classified the cultural sector as one of the most affected sectors of the Russian economy during the spread of coronavirus infection. The main problems were financial difficulties, provision of jobs for employees of cultural institutions, as well as cancellation and postponement of organized events. Organizations aimed at a wide audience, including museums, theaters, and concert venues, have been particularly affected (Muzychuk, 2021).

Regional cultural institutions have found themselves in a position of increased vulnerability, as cultural institutions in the Russian regions, especially in small towns and rural areas, have a more modest level of technical equipment and digital development compared to large cities (Kondakova, 2023a).

This situation made it difficult to quickly switch to remote operating models, as many organizations experienced a lack of necessary equipment and difficulties in providing reliable Internet access, and their employees were characterized by insufficient digital literacy (Galkin and Parfenova, 2022). The transition to online formats was accompanied not only by technical but also organizational difficulties: in some cases, state and municipal assignments did not provide for remote forms of work, which created additional barriers.

The dependence of cultural financing on regional and municipal budgets also proved to be a risk factor. During the pandemic, the subjects of the Russian Federation and municipalities experienced a significant shortage of funds for culture due to their redistribution to other life-supporting areas. At the same time, cultural organizations perform an important socio-economic function, acting as drivers of tourism development, sources of jobs and centers of social life, especially in small towns, where they often remain one of the few platforms for social interaction (Muzychuk, 2021). In addition, a sharp decline in attendance due to forced restrictions on mass events and self-isolation has led to a significant drop in extra-budgetary

revenues needed by many organizations (Kosygina, Mikhalko, 2025).

Institutions were forced to optimize their staff by introducing a part-time employment regime, which negatively affected the incomes of employees and the long-term prospects of the human resources potential of the cultural sector. In Russia as a whole, in the first quarter of 2020, there was a significant increase in the number of employees on the payroll who were idle due to the fault of the employer and for reasons beyond the control of the employer and employee, by 17.5 times (+6,029 people) compared to the first quarter of 2019¹.

The scientific problem of the study is the lack of quantitative methods for assessing the ability of the regional cultural sphere to recover from external shocks, which makes it difficult to develop targeted support measures. The hypothesis of the study is that regions with high cultural potential (for example, Saint Petersburg) do not necessarily demonstrate high resilience, while less developed territories in terms of infrastructure may show more successful recovery.

Thus, the aim of the study is to assess the cultural resilience of the regions (subjects of the Northwestern Federal District) to crisis phenomena using the example of the COVID-19 pandemic.

Theoretical framework of the research

The studies adapted the concept of resilience to analyze the socio-economic systems of regions as a whole and individual sectors of the national economic complex (Romanova et al., 2022; Ionova et al., 2022). In the works of J. Simmie and R. Martin, the resilience of regional economies includes four components: resilience – the ability to withstand a shock; recovery – the speed

and completeness of a return to pre-crisis parameters; reorientation – the ability to adapt structurally; renewal – the transition to a new development trajectory (Simmie, Martin, 2010; Martin, Sunley, 2015).

The distinction between the concepts of “resilience” and “resistance” is of great methodological importance. If resistance (in the narrow sense) emphasizes the dynamic ability of the system to recover from deformation, then resilience (resistance) focuses on maintaining structural parameters during the period of shock (Rose, 2007). In the context of analyzing the post-pandemic recovery of the cultural sphere, it is advisable to use a broader understanding of resilience, including the ability to withstand crisis phenomena (resilience) and the ability to adapt and recover (the author’s interpretation based on the synthesis of approaches described in (Simmie, Martin, 2010) and (Rose, 2007)).

In the field of culture, resilience is defined as the ability of organizations, institutions and regional cultural systems to maintain their key functions, ensure employment and accessibility of services to the public in the face of external shocks, as well as restore quantitative parameters of activity after their violation.

The operationalization of this concept requires the identification of measurable indicators reflecting various aspects of the functioning of the cultural sphere. There are three main groups of indicators in the scientific literature: resource indicators characterizing the material, technical and personnel base of the cultural sphere (Muzychuk, 2023); indicators of accessibility and consumption reflecting the interaction of cultural institutions with the population: the number of visits to cultural events, the frequency of visits, the proportion

¹ HSE Analytical Bulletin on the economic and social consequences of the coronavirus in Russia and around the world “Economic and social consequences of COVID-19 in the field of culture in Russia”. Available at: https://www.hse.ru/data/2020/07/06/1609165892/HSE_Covid_08_2020_5_3.pdf

of the population covered by cultural services (Antonova, 2014); performance indicators that characterize the effectiveness of cultural organizations: the volume of paid services to the public in the field of culture, indicators of collection and occupancy of halls, the ratio of budgetary and extra-budgetary financing (Evmenov, Blagova, 2017; Kosygina, Leonidova, 2025; Shabunova, Sokolova, 2025).

We should note that when measuring the resilience of socio-economic systems, both simple statistical and econometric methods are used. The most common is the analysis of dynamic series by comparing the values of key indicators during the active phase of the crisis or shock and the post-crisis period (Sensier et al., 2016; Danilova et al., 2024). Index methods are used that aggregate a set of indicators and allow for comparative analysis, for example, between regions. The authors have developed a methodology for assessing regional economic complexity (RECI) and the region's resilience to shocks (RSI) based on data from 85 regions of the Russian Federation for 2014–2023. The study includes clustering of regions according to the level of sustainability and economic complexity (Polyakova, Kolmakov, 2025). An example of foreign research is the regional resilience/stability index, developed by the European Commission to assess the resilience of regions to economic shocks, which includes indicators of employment, GRP, household income and structural characteristics of the economy². Regression models are used to identify the factors of resistance, in which the dependent variable is the rate of recovery of indicators, and the independent variable is the characteristics of the regional economy, the institutional environment, the demographic structure or the resource supply of the industry. For example, S.P. Zemtsov

and A.A. Voloshinskaya developed an author's methodology and assessed the resilience of the economies of Russian regions to shocks in eight basic industries. The factors that influenced the probability of a reduction in economic activity in 2022 and its recovery in the first half of 2023 have been econometrically identified. Of the 85 regional economies examined, 55 turned out to be relatively stress-resistant (Zemtsov, Voloshinskaya, 2024).

For a correct analysis of the dynamics of resilience, it is important to choose a base period relative to which changes are recorded. M. Sensier rightly points out the difficulty of identifying the time limits of a crisis phenomenon when assessing economic sustainability (Sensier et al., 2016). Traditionally, a crisis is perceived as a short-term episode, but it is preceded by a long period of accumulation of imbalances. The pandemic, with its sudden and spontaneous nature, which led to the absence of a clear preparatory period, was an exception, breaking out of the general pattern. For this reason, when studying recovery processes after crisis events, researchers often rely on data for 2018–2019, preceding the pandemic, as a starting point. Such a methodical choice makes it possible to more reliably verify the degree of recovery of the economy as a whole or a particular sector to pre-crisis levels.

Therefore, based on the analysis of the scientific literature, it is possible to formulate the foundations of this study. The resilience of the cultural sphere is understood as its adaptive ability to maintain its functionality under stress and restore previous volumes of activity after the crisis. The practical implementation of this concept is based on three groups of measurable indicators. Existing methodological tools, in particular, time series analysis (comparing data before and after the crisis) and the use of index

² European Commission. A regional resilience dashboard for the EU: Mapping EU regions' strengths and vulnerabilities. DG Regional Policy Newsroom. 2026. Available at: https://ec.europa.eu/regional_policy/whats-new/newsroom/07-01-2026-a-regional-resilience-dashboard-for-the-eu-mapping-eu-regions-strengths-and-vulnerabilities_en

methods to compare different regions, confirm the validity of the chosen research strategy. The synthesis of the considered approaches forms the basis of the author's methodology for quantifying cultural resilience at the regional level.

Materials and methods

A set of quantitative indicators reflecting key aspects of the functioning of the cultural sphere is used. Among them are: attendance at cultural institutions is an indicator of the level of consumption of cultural services by the population; the volume of paid services to the population is an indicator of the economic activity of cultural organizations; consolidated expenditures of regional budgets on culture is an indicator of state policy in this area; the number of employees of cultural institutions is an indicator of the personnel stability of the industry. The choice of these indicators is based on their relevance for assessing resistance, as well as the availability of complete and comparable statistical data for the period under review for the regions of the Northwestern Federal District.

The information base of the study consisted of data from the Federal Treasury of the Russian Federation on the execution of consolidated budgets of the subjects of the Russian Federation, official statistical data from the Federal State Statistics Service (Rosstat), information from the Automated Information System (AIS) of statistics of the Ministry of Culture of the Russian Federation, as well as materials from the Unified Interdepartmental Information and Statistical System (EMISS). To ensure comparability of data over time, all financial indicators (consolidated cultural expenditures and the volume of paid services to the population) were recalculated into comparable prices in 2023 using a deflator index based on the consumer price index.

The assessment of resilience is carried out by comparing the values of the selected

indicators in the post-crisis period with the pre-pandemic level. The year 2019 was adopted as the base year, which corresponds to the established research practice, according to which the period immediately preceding the crisis is used as a reference point in analyzing the effects of natural shocks (Sensier et al., 2016). The chronological scope of the study covers 2019–2021, which allows recording both the depth of the recession in the active phase of the pandemic (2020) and the first results of recovery (2021). It is worth noting that statistical data for 2022 and 2023 are currently available, which indicate the further dynamics of the development of the cultural sphere in the regions of the Northwestern Federal District. However, their inclusion in the main analysis requires careful interpretation, since the post-crisis period after 2021 is characterized not only by recovery processes, but also by the impact of new external factors (sanctions restrictions, structural restructuring of the economy), which may distort the assessment of the actual pandemic shock. In this regard, the data for 2022–2023. They are used in the work as a reference for contextualizing long-term trends, but are not included in the calculation of the integral resilience index.

It is proposed a method for quantifying cultural resilience, which includes several successive stages. At the first stage, two basic indexes were calculated for each region and each indicator:

– the “fall index” is the ratio of the indicator value in 2020 to the value in 2019, characterizing the depth of the recession during the active phase of the crisis (1);

$$I_{fall}^{i,r} = \frac{P_{2020}^{i,r}}{P_{2019}^{i,r}}, \quad (1)$$

where $I_{fall}^{i,r}$ – fall index;

P – value of the indicator; i – type of indicator; r – region;

– the “recovery index” is the ratio of the indicator value in 2021 to the value in 2019, reflecting the degree of return to the pre-crisis level (2).

$$I_{recov}^{i,r} = \frac{P_{2021}^{i,r}}{P_{2019}^{i,r}} \quad (2)$$

where $I_{recov}^{i,r}$ – recovery index;
 P – value of the indicator;
 i – type of indicator; r – region.

An index value of 1 indicates that there are no changes relative to the base year; a value of less than 1 indicates a decrease in the indicator, and more than 1 indicates an increase.

At the second stage, an integral resilience index was calculated for each region as the arithmetic mean of the recovery and decline indices for four indicators (3).

$$R_r = \frac{\sum I_{fall}^{i,r} + \sum I_{recov}^{i,r}}{8}, \quad (3)$$

where R_r – resilience index;
 $\sum I_{fall}^{i,r}$ – sum of fall indices;
 $\sum I_{recov}^{i,r}$ – sum of the recovery indices.

At the final stage, all regions of the Northwestern Federal District were divided into three groups (high, medium, and low resistance) based on the obtained values of the integral index of cultural resilience. The boundaries of the groups are determined by the method of equal intervals between the minimum and maximum values of the index (4).

$$h = (R_{max} - R_{min})/k, \quad (4)$$

where h – size of the interval;
 R_{max} and R_{min} – maximum and minimum values of the integral resilience index among the regions of the Northwestern Federal District,
 $k = 3$ – number of allocated groups.

The obtained results are visualized in the form of a cartographic scheme, which makes it possible to visualize the spatial differentiation

of the sustainability of the cultural sphere within the Northwestern Federal District.

The proposed methodology combines the analytical advantages of the index approach (the possibility of aggregation and interregional comparisons), taking into account the industry specifics of the cultural sphere, which ensures the correctness of the conclusions and their applicability for the purposes of regional cultural policy.

Research results

One of the indicators reflecting the volume of consumption of cultural services is the number of visits to institutions. Over the period 2018–2023, there has been a steady increase in the total number of visits to cultural institutions throughout the country and in the regions of the Northwestern Federal District, which is consistent with the targets of the national project “Culture”³, implemented since 2019 and designed to increase the accessibility of cultural services to the population (Kondakova, 2023b).

However, it was the COVID-19 pandemic that had the most significant impact on this indicator. A.Yu. Smirnov’s research confirms that as a result of the negative impact of the coronavirus epidemic in 2020–2022, the number of theater and museum visitors has significantly decreased (Smirnov, 2026). In most regions, attendance dropped by almost half in 2020. The largest decrease was recorded in Saint Petersburg, where the fall index was 0.42. At the same time, the indicator subsequently did not reach the level of 2019. The Murmansk Region is also showing a negative trend in 2021, having failed to restore the 2019 indicator.

The Pskov Region differs from all the regions of the Northwestern Federal District. While all regions (and Russia as a whole), without exception, recorded a sharp decrease in attendance in

³ The deadlines for the implementation of the national project “Culture” are from 2019 to 2024. In 2025, it was included in the national project “Family”.

2020 (drop indices from 0.42 to 0.81), the Pskov Region saw an increase from 8.75 visits in 2019 to 9.92 in 2020. During the pandemic restrictions, attendance at cultural institutions in the region increased by 13%. It can be assumed that this is due to the increase in attendance at cultural and leisure facilities (CLF) events. For instance, the figure in 2019 was 2,166,702 people, compared to 3,526,677 people in 2020. During the pandemic period, it increased by more than 1.6 times⁴. This may be due to the general development of the cultural sphere in the Pskov Region or the rapid adaptation to the digital format⁵. It is also worth considering the methodological features of calculating the indicator, especially during the pan-

demical period, as the system for recording visits changed in 2020. Due to the digital transition, the number of visits included visits to online resources of organizations⁶.

The highest recovery index (2021 to 2019) was recorded in the Komi Republic (1.38), the Leningrad Region (1.36) and the Vologda Region (1.20). At the same time, there was a significant jump in the Komi Republic in 2021 (11.89 visits), which exceeded not only the pre-crisis level (8.60), but also the figures for subsequent years (9.08 in 2022, 10.64 in 2023). It is important to note the significant regional differentiation within the NWFED in terms of both the rate of decline and the rate of recovery (Tab. 1).

Table 1. Number of visits to cultural institutions per capita in Russia and subjects of the Northwestern Federal District in 2018-2023

Constituent entity of the Russian Federation	Year						Fall index (2020 to 2019)	Recovery Index* (2021 to 2019)
	2018	2019	2020	2021	For reference			
					2022	2023		
Total for the Russian Federation	7.87	8.21	4.36	8.36	9.26	10.41	0.53	1.02
Northwestern Federal District	7.97	8.47	4.73	8.61	8.36	9.43	0.56	1.02
Komi Republic	8.13	8.60	4.18	11.89	9.08	10.64	0.49	1.38
Leningrad Region	5.76	5.95	4.82	8.07	6.13	7.06	0.81	1.36
Vologda Region	10.07	10.82	6.40	12.98	10.61	12.03	0.59	1.20
Pskov Region	7.70	8.75	9.92	10.47	13.76	14.68	1.13	1.20
Republic of Karelia	5.56	5.92	3.80	7.11	6.80	7.61	0.64	1.20
Kaliningrad Region	6.59	6.69	4.08	7.85	6.47	7.35	0.61	1.17
Arkhangelsk Region	7.80	8.30	4.22	9.61	8.52	9.80	0.51	1.16
Novgorod Region	12.92	13.95	9.41	15.85	15.49	17.57	0.67	1.14
Murmansk Region	9.60	9.97	5.18	9.76	10.54	11.90	0.52	0.98
Saint Petersburg	8.01	8.57	3.56	6.39	7.44	8.36	0.42	0.75

Note: the total number of visits to circuses, zoos, theaters, libraries, CLFs, recreation and entertainment parks, and museums (with the exception of art schools, concert organizations, and independent groups).

* Ranked by recovery index.

According to: AIS "Statistics" data of the Ministry of Culture of the Russian Federation. Available at: <https://stat.mkrf.ru/indicators/?ysclid=mifpk0iiyh818882109>

⁴ AIS "Statistics" data from the Ministry of Culture of the Russian Federation. Available at: <https://stat.mkrf.ru/indicators/?ysclid=mifpk0iiyh818882109>. Indicator: the number of visits to cultural events in total, people. By type of cultural and leisure organizations (CLO).

⁵ The Pskov Region has become a leader in the Northwestern Federal District in terms of the growth of attendance at cultural institutions within the framework of the national project. PAI-novosti. Available at: <https://informpskov.ru/news/313678.html>

⁶ On the methodology for calculating the indicator "Number of visits to cultural events": Order R-1358 of the Ministry of Culture of the Russian Federation, dated October 16, 2020. Electronic fund of legal and regulatory documents. Available at: <https://docs.cntd.ru/document/566240243>

To assess the cultural resilience of the subjects of the Northwestern Federal District during the COVID-19 pandemic, indicators of the volume of paid services provided by cultural institutions per capita were analyzed. In Russia as a whole, the volume of paid cultural services decreased in 2020 to 0.49 from the level of 2019, and recovered to 0.69 by 2021. On average, the decline in the Northwestern Federal District turned out to be stronger (index 0.42), and the recovery was noticeably weaker (index 0.49) compared to the national level. There is significant differentiation within the Northwestern Federal District. The Republic of Karelia and the Kaliningrad Region demonstrated the highest resilience in terms of paid cultural services. The recovery index in Karelia was 0.93 (with a drop of 0.65), and in the Kaliningrad Region – 0.89 (with a drop of 0.56). The average level is typical for the Vologda and Leningrad regions (recovery indices 0.77 and 0.73, respectively) with a moderate drop (0.67 and 0.69). The Leningrad Region demonstrated the lowest depth of the crisis recession among all the regions of the Northwestern Federal District, however, recovery to the level of 2019 remains incomplete. Saint Petersburg has extremely low indicators: the fall index was 0.37 (an outsider in the Northwestern Federal District), the recovery index was 0.41. Despite the high absolute growth rates of paid services of cultural institutions in 2022-2023 (from 3719 to 6473 thousand rubles), the values of 2023 remain significantly lower than the pre-crisis maximum (9,003 thousand rubles). The Arkhangelsk region is characterized by the maximum drop in the district (along with Saint Petersburg) to 0.42.

The recovery of paid services in 2021 also occurred unevenly, with a difference in the recovery index of up to 0.52. It is noteworthy that the differences in absolute values were also significant. In all regions of the Northwestern

Federal District, the index of recovery in the volume of paid services remains below 1, and the average value in Russia is 0.69. In most regions, the volume of paid services reaches and exceeds the docked levels only in 2022–2023 (*Tab. 2*).

Unlike the volume of paid services, budget expenditures on culture in Russia and the Northwestern Federal District as a whole did not significantly decrease during the pandemic. The 2020 fall index by 2019 was 0.96 for both the Russian Federation as a whole and the Northwestern Federal District. The 2021 recovery index by 2019 is also fixed at 0.96, which indicates almost complete preservation of budget financing. Moreover, by 2023, consolidated budget expenditures on culture exceeded the pre-crisis level in the Russian Federation as a whole (714.5 billion rubles versus 671 billion rubles). in 2019), and for the Northwestern Federal District (84.98 billion rubles versus 76.7). It is noteworthy that the values are relatively stable both by country and by region separately.

According to this indicator, the regional differentiation in the index values is much smaller. The largest increase in spending in 2021 was recorded in the Murmansk (recovery index 1.12), Kaliningrad (1.07), and Novgorod regions (1.08). Regions with stable or slightly increased financing are the Leningrad (index 1.02) and Arkhangelsk (index 1.00) regions. They have maintained pre-crisis spending levels. At the same time, in the Leningrad Region in 2022–2023 there was a slight decrease in budget financing of culture (from 9.98 to 9.40 billion rubles). There are a number of regions with reduced budget funding during the pandemic and subsequent stagnation. In the Republic of Karelia, the recovery index was 0.95, and by 2023, expenses decreased to 2.55 billion rubles against 2.92 billion rubles in 2019, despite a short-term surge in 2020

Table 2. Volume of paid services of cultural institutions per capita in Russia and subjects of the Northwestern Federal District in 2018–2023, rubles at comparable prices in 2023

Constituent entity of the Russian Federation	Year						Fall index (2020 to 2019)	Recovery index* (2021 to 2019)
	2018	2019	2020	2021	For reference			
					2022	2023		
Total for the Russian Federation	1896.64	1971.16	975.29	1363.71	1479.07	н\д	0.49	0.69
Northwestern Federal District	3690.61	4479.68	1868.22	2174.41	2481.51	3501.90	0.42	0.49
Republic of Karelia	1189.50	1318.25	857.34	1220.26	1396.67	2351.50	0.65	0.93
Kaliningrad Region	1662.57	1807.08	1008.53	1608.29	1761.15	2229.40	0.56	0.89
Vologda Region	1067.68	1673.35	1124.14	1280.26	1377.23	1612.00	0.67	0.77
Leningrad Region	659.82	1711.09	1178.88	1255.85	1207.83	1490.20	0.69	0.73
Murmansk Region	1892.98	1908.40	818.37	1399.54	1661.57	1748.90	0.43	0.73
Pskov Region	978.39	985.85	494.23	721.11	758.81	843.7	0.50	0.73
Novgorod Region	1058.24	1176.46	680.09	811.06	817.9	1023.70	0.58	0.69
Arkhangelsk Region	1210.20	1277.23	536.2	874.19	920.7	1158.30	0.42	0.68
Komi Republic	888.11	872.5	478.33	592.21	520.13	696.8	0.55	0.68
Saint Petersburg	7618.24	9002.84	3362.24	3719.09	4386.07	6472.80	0.37	0.41

* Ranked by the recovery index.
The volume of paid services to the public is the monetary equivalent of the volume of services provided by residents of the Russian economy (legal entities, individual entrepreneurs, the self-employed, notaries and lawyers who have established law offices) to citizens of the Russian Federation, as well as to citizens of other states (non-residents) who consume certain services on the territory of the Russian Federation. The indicator is formed in accordance with the official statistical methodology approved by Rosstat Order 668, dated December 20, 2023.
According to: EMISS data 1.10.1. Volume of paid services to the public. Available at: <https://www.fedstat.ru/organizations/?expandId=1293165#fpsr1293165>

(3.46 billion rubles). The Komi Republic (index 0.94), the Vologda Region (0.93), and the Pskov Region (0.93) also showed a reduction in budget expenditures on culture in 2021 compared to 2019. At the same time, volumes in the Vologda and Pskov regions were partially restored by 2023, but they are still below pre-crisis levels. Saint Petersburg deserves special attention (the recovery index of 0.90 is the lowest in the district). Expenses decreased from 32.44 billion rubles in 2019 to 29.34 billion rubles in 2021 and only by 2023 exceeded the pre-crisis level (37.18 billion rubles). During the most acute period of the pandemic, budget support for culture in the metropolis was the least stable among all regions of the Northwestern Federal District. The most interesting conclusions can be drawn when comparing the dynamics

of budget expenditures and market revenues. For example, in Karelia, low budget support is combined with the successful adaptation of paid services to the public. The most alarming case is Saint Petersburg, where both financing channels (budget and market) have shown low stability (*Tab. 3*).

The dynamics of the number of employees of cultural institutions demonstrates sustainability, and in a number of regions, an increase in this indicator has been recorded during the pandemic. In Russia as a whole, the recovery index was 1.04. It is noteworthy that in most regions both indexes are greater than 1. The only exceptions are the Vologda Region (both indexes = 0.95) and the Komi Republic with a recovery index of 0.98. The index values do show insignificant regional

Table 3. Expenditures of the consolidated budgets of Russia and subjects of the Northwestern Federal District on culture in 2018-2023 at comparable prices in 2023, billion rubles

Constituent entity of the Russian Federation	Year						Fall index (2020 to 2019)	Recovery index* (2021 to 2019)
	2018	2019	2020	2021	For reference			
					2022	2023		
Russian Federation	634.33	671	644.76	645.8	668.5	714.5	0.96	0.96
Northwestern Federal District	71.91	76.7	73.93	73.78	77.07	84.98	0.96	0.96
Murmansk Region	5.62	5.95	6.27	6.65	7.26	6.58	1.05	1.12
Kaliningrad Region	2.84	3.42	3.41	3.71	3.6	3.88	1.00	1.08
Novgorod Region	2.24	2.34	2.22	2.51	3.04	4.56	0.95	1.07
Leningrad Region	9.3	9.76	10.27	9.98	9.44	9.4	1.05	1.02
Arkhangelsk Region	5.58	5.73	5.8	5.72	5.78	7.03	1.01	1.00
Republic Of Karelia	2.49	2.92	3.46	2.78	2.79	2.55	1.18	0.95
Komi Republic	5.69	6.02	6.1	5.64	5.49	5.68	1.01	0.94
Vologda Region	3.83	4.86	4.79	4.51	4.99	4.92	0.99	0.93
Pskov Region	1.75	2.02	1.89	1.87	1.96	2.12	0.94	0.93
Saint Petersburg	31.34	32.44	28.68	29.34	31.55	37.18	0.88	0.90

* Ranked by the recovery index.
According to: data from the Federal Treasury of the Russian Federation.

differentiation. However, we can single out a group of leaders in the recovery index: the Pskov (index 1.07), Kaliningrad (1.07) and Arkhangelsk (1.06) regions. On the contrary, subjects with stagnation or staff reduction – the Komi Republic and the Vologda Region – became the only regions of the Northwestern Federal District where the number of cultural workers in 2021 was lower than the pre-crisis level. The case of the Vologda Region is particularly significant: the decline began as early as 2020 (index 0.95) and was not compensated in subsequent years (6,760 people in 2023 versus 7,026 people in 2019; *Tab. 4*). The likely reason for this is the structural optimization of the economy and budget expenditures.

Based on four particular indicators of resilience, which include indices of recovery in the volume of paid services, budget expenditures on culture, attendance and number of employees of cultural institutions,

an integral index of resilience was calculated as the arithmetic average of four recovery indices (2021 to 2019) for each region. The obtained values of the integral index range from 0.72 to 0.96 with a total range of 0.24. Based on this range, three levels of resilience were identified: low (from 0.72 to 0.80); medium (from 0.81 to 0.88); high (from 0.89 to 0.96).

The group with high resilience includes five regions of the Northwestern Federal District: the Kaliningrad, Pskov, Novgorod, Leningrad regions, and the Republic of Karelia. These territories are characterized by balanced or advanced recovery in most indicators (market, budget, personnel). It is worth noting that this group includes regions with both high incomes (Leningrad Region) and more modest economic indicators. This confirms that the sustainability of the cultural sphere is determined not only by budgetary possibilities, but also by the effectiveness of management decisions.

Table 4. Number of employees of cultural institutions of Russia and subjects of the Northwestern Federal District in 2018–2023, people

Constituent entity of the Russian Federation	Year						Fall index (2020 to 2019)	Recovery index* (2021 to 2019)
	2018	2019	2020	2021	For reference			
					2022	2023		
Total for the Russian Federation	792494	744528	768841	772021	771502	769082	1.03	1.04
Northwestern Federal District	88163	84591	85565	86498	87255	87354	1.01	1.02
Pskov Region	3889	3843	3933	4112	4139	4117	1.02	1.07
Kaliningrad Region	5167	4730	4920	5050	5084	5107	1.04	1.07
Arkhangelsk Region	7576	6717	7162	7152	7193	7170	1.07	1.06
Republic Of Karelia	3821	3581	3689	3709	3675	3711	1.03	1.04
Novgorod Region	3929	3732	3875	3833	3810	3749	1.04	1.03
Saint Petersburg	36906	35221	35346	36080	36311	36529	1.00	1.02
Murmansk Region	4327	4002	4073	4081	4094	4089	1.02	1.02
Leningrad Region	10247	10356	10545	10509	10818	10806	1.02	1.01
Komi Republic	5104	4873	4862	4786	4881	4808	1.00	0.98
Vologda Region	6724	7026	6646	6695	6754	6760	0.95	0.95

* Ranked by the recovery index.
According to: AIS "Statistics" data of the Ministry of Culture of the Russian Federation. Available at: <https://stat.mkrf.ru/indicators/?ysclid=mifpk0iiyh818882109>

The Vologda, Murmansk, Arkhangelsk regions, and the Komi Republic showed average resilience. These regions are characterized by multidirectional trends: for example, in the Murmansk Region, high budget expenditures are combined with incomplete restoration of paid services, while in the Komi Republic there was a decrease in all three indicators, but the integral value remained within the average range.

It is noteworthy that the group with low sustainability includes the largest cultural center in the country, Saint Petersburg (integral index 0.72). It is the only region in the group with low cultural resilience. A significant decrease in the volume of paid services in 2020 (fall index of 0.37), a low recovery index for paid services (0.41) and budget expenditures (0.90) led to the

fact that even staff retention (an index of 1.02) could not compensate for the failure.

Geographical differentiation is noteworthy: regions with high resilience are located mainly in the western part of the Northwestern Federal District (Kaliningrad, Pskov, Novgorod, Leningrad regions, Republic of Karelia), while subjects with medium resilience are located in the eastern and northern parts of the district (Vologda, Arkhangelsk, Murmansk regions, Komi Republic).

It is also important to note that the average index value for the country is 0.84, while for the Northwestern Federal District it is 0.80. At the same time, if we exclude Saint Petersburg, all regions of the Northwestern Federal District demonstrate a higher sustainability index than the national average (*Figure*).

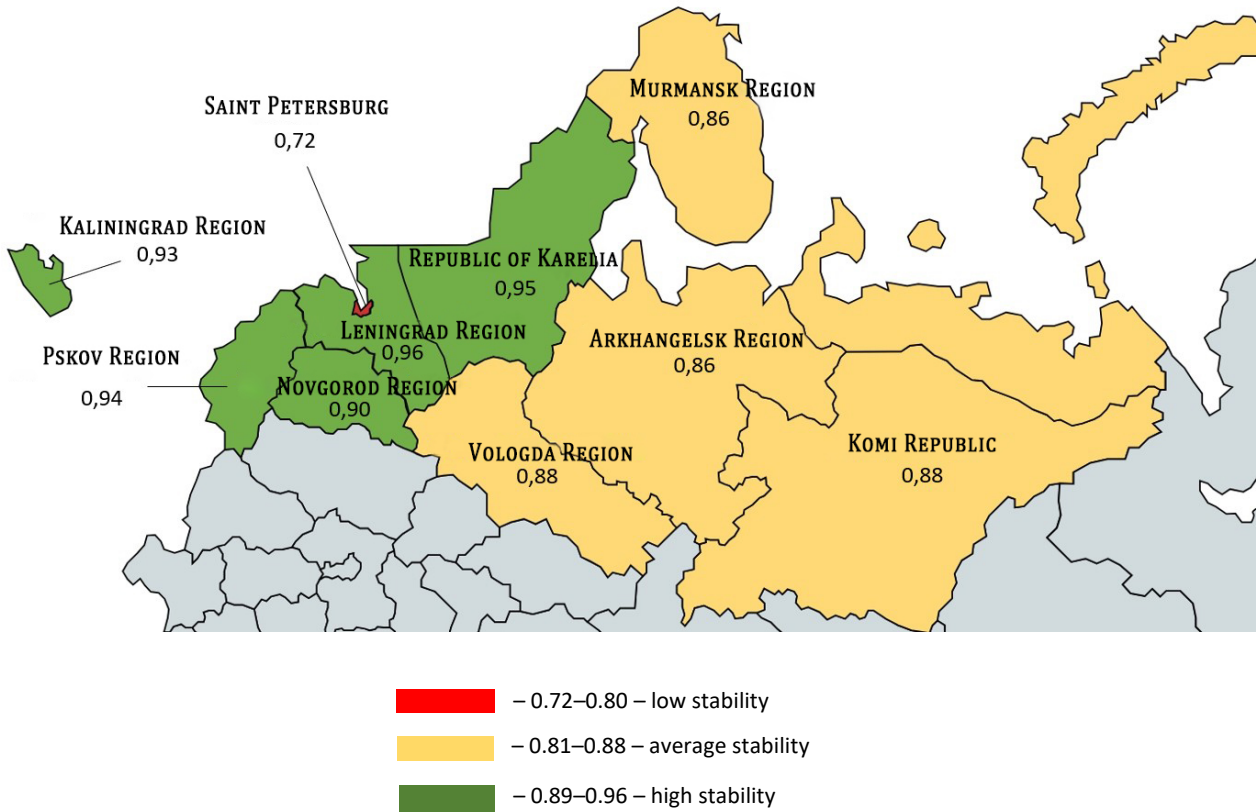


Figure. Integral index of cultural resilience in the regions of Northwestern Federal District in the post-crisis period*

* It is calculated as the arithmetic average of the 2021 to 2019 recovery indices in terms of paid services, budget expenditures and the number of employees.

Source: own compilation.

Conclusion

As a result of the analysis, we found that the COVID-19 pandemic had a significant destabilizing effect on the cultural sector of the regions of the Northwestern Federal District. At the same time, the degree of negative consequences and the pace of recovery showed noticeable heterogeneity in individual regions of the district. The absence of dependence between the scale of the cultural potential of the region and its ability to withstand crises has been revealed. This is illustrated by the fact that Saint Petersburg, which is a developed cultural center, has demonstrated the greatest exposure to negative influences, while some territories with less developed cultural

infrastructure have been able to show a high degree of resilience. Most likely, the viability of the cultural sector is determined not so much by the amount of financial injections from the budget or the existing infrastructure, as by the effectiveness of adaptive mechanisms, the ability to find alternative sources of financing and a flexible approach to managing human resources in the sector itself at the regional level. Therefore, the hypothesis of the study was confirmed.

The limitations of the study are related to the use of data only for 2019–2021 to calculate the integral cultural resilience index, which made it possible to isolate the pandemic shock, but does not take into account the

post-crisis dynamics of 2022–2023, which was influenced by new external factors such as tougher international sanctions, the withdrawal of foreign cultural institutions and digital platforms from the Russian market, the restructuring of the logistics of touring activities, the rising cost of material and technical resources, and changing the structure of public financing and priorities of cultural policy in the context of economic instability. In addition, the proposed set of four indicators does not cover the qualitative characteristics of cultural services, the level of digital maturity of institutions and public satisfaction with the quality of service

The practical significance of the work lies in the possibility of using the results obtained and the developed integral index of resilience to improve the mechanisms of regional cultural policy, especially in terms of targeted support for the most vulnerable territories and the development of crisis management scenarios in the field of culture. The proposed index makes it possible to identify regions with low resilience (using the example of the Northwestern Federal

District). Saint Petersburg), for which it is recommended to develop special post-crisis recovery programs, including, for example, subsidizing paid services to the public and temporarily increasing the budget financing rate until pre-crisis indicators are reached. Based on our methodology, it is also possible to form regional cultural reserve funds with predefined activation criteria. For regions with an average level of resilience, but a pronounced personnel decline (based on the Northwestern Federal District – the Vologda Region and the Komi Republic), it is necessary to implement targeted regional staff retention programs, including grants for advanced training, housing programs for young professionals, incentive allowances for work in crisis conditions, and other measures.

Future research areas include expanding the indicator base through indicators of the digital transformation of the cultural sector in the regions, conducting comparative analysis with other federal districts, as well as econometric modeling of factors determining differences in the regional resilience of the sector.

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РЕЗИЛЬЕНТНОСТЬ СФЕРЫ КУЛЬТУРЫ В РЕГИОНАХ: ОТ ШОКА ПАНДЕМИИ К ВОССТАНОВЛЕНИЮ

Цель исследования состоит в оценке резильентности сферы культуры регионов (субъектов Северо-Западного федерального округа) к кризисам на примере пандемии COVID-19. Научная новизна заключается в обосновании и эмпирическом подтверждении того, что бюджетные учреждения культуры могут характеризоваться резильентностью подобно коммерческим организациям, регионам и национальным экономикам, что расширяет границы применимости соответствующей концепции на непредпринимательский сектор. Разработана методика количественной оценки резильентности сферы культуры регионов, основанная на агрегировании четырех индикаторов: объем платных услуг, бюджетные расходы, численность сотрудников, посещаемость учреждений культуры. Информационную базу составили данные Росстата, Федерального казначейства, АИС Минкультуры РФ и ЕМИСС за 2018–2023 гг. Выделены три уровня резильентности сферы культуры в регионах (низкий, средний, высокий). Установлено, что высокий ее уровень имеют пять регионов Северо-Западного федерального округа: Калининградская, Псковская, Новгородская, Ленинградская области и Республика Карелия; средний уровень – Вологодская, Мурманская, Архангельская области и Республика Коми; 2. Санкт-Петербург – единственный субъект СЗФО с низкой резильентностью. Выявлена географическая закономерность: западные регионы СЗФО демонстрируют более высокую устойчивость в развитии сферы культуры по сравнению с восточными и северными. Установлено, что высокая адаптивность сферы культуры достигается за счет не только бюджетного финансирования, но и адаптации платных услуг, при этом кадровая составляющая продемонстрировала наибольшую устойчивость во всех регионах, за исключением Вологодской области и Республики Коми. Направления будущих исследований включают расширение набора индикаторов, учет цифровой трансформации культурных услуг и сравнительный анализ с другими федеральными округами. Практическая значимость работы состоит в возможности использования полученных результатов для совершенствования механизмов управления культурной сферой, разработки адресных мер поддержки учреждений культуры, а также формирования политики в сфере культуры на региональном и федеральном уровнях.

Культура, регионы, культурная политика, резильентность, устойчивость, пандемия, COVID-19.

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