Cities 173 (2026) 106952

Contents lists available at ScienceDirect

Cities

journal homepage: www.elsevier.com/locate/cities

# COVID-19 challenges and governance response in Russian cities. Insights from Rostov-on-Don☆

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ARTICLE INFO

*Keywords:*
Urban resilience
Pandemic governance
COVID-19
Authoritarian regimes
Russian cities

ABSTRACT

The COVID-19 pandemic highlighted serious weaknesses in multilevel governance, especially in urban contexts under authoritarian regimes. This paper explores how federal, regional, and municipal government dynamics influenced pandemic governance and urban resilience in Rostov-on-Don, Russia. Using the oxygen shortage crisis of October 2020 as a point of departure, the study investigates how political priorities shaped public health outcomes, undermined public trust, and reconfigured urban demographic trends. The research draws on policy analysis, media discourse review, and demographic data. Key sources include federal and regional legal documents, local news sources, and statistical data. Media coverage and public responses were categorized by theme, and changes in demographic dynamics were analysed.

Findings show that while pandemic management was formally delegated to regional authorities, decision-making closely followed federal directives. The municipal level was limited to operational roles. Policies focused on restriction and enforcement rather than adaptation or care. Public dissatisfaction manifested in protests, black markets for vaccine certificates and permits, and low compliance. Demographically, the pandemic reversed long-standing urban growth, increased mortality—especially among older adults—and altered migration patterns. The case of Rostov-on-Don reveals that urban resilience cannot be achieved where political loyalty overrides local responsiveness. The centralised governance model eroded public trust and exposed the principal-agent problem in the governance system. These findings highlight the importance of governance quality, institutional autonomy, and public trust in building resilient urban systems.

## 1. Introduction

On October 11, 2020, 13 patients died at Rostov-on-Don City Hospital No. 20 due to a critical shortage of medical oxygen, essential for COVID-19 treatment. The incident became publicly known on October 21 when the information was provided to local media by the hospital staff (Babicheva, 2020). The local authorities reacted immediately, claiming publicly that the information "did not correspond to the reality" or even calling it "fake news" (Bulavko, 2020; Garichyan, 2020). However, more reports of oxygen shortages emerged across hospitals in Rostov-on-Don and the wider region. Despite the attempts to stop the rising wave of public outrage by the local and regional authorities, it became more difficult to ignore public opinion. The city administration had to establish an investigative commission (Garichyan, 2020a). Regional authorities continued accusing the media of exaggeration, but the case gained national attention. The national authorities reacted with significant repercussions, including resigning health officials, such as Rostov-on-Don's health chief Levitskaya and regional health minister Bykovskaya. The authorities initiated a criminal investigation, and different experts commented on the situation, emphasising the existing essential problems in the healthcare system's functioning, including the issue of corruption (Garichyan, 2020b). A year later, the case was still under the control of the national authorities: Alexander Bastrykin, Chairman of Russia's Investigative Committee, demanded a progress report following criticisms that appeared in the media about the investigation's handling (Babicheva, 2021). Nevertheless, the criminal investigation opened on October 30, 2020, was closed precisely two years after the patients' deaths due to the expiration of the statute of limitations (Babicheva, 2022).

The Rostov-on-Don oxygen crisis is not an isolated incident but

☆ This article is part of a special issue entitled: 'CITIES IN THE AFTERMATH OF COVID-19' published in Cities.

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https://doi.org/10.1016/j.cities.2026.106952
Received 21 April 2025; Received in revised form 16 January 2026; Accepted 10 March 2026
Available online 21 March 2026

reveals systemic deficiencies in the emergency governance framework. This event serves as a compelling entry point into broader discussions on healthcare infrastructure preparedness, corruption, and media control. However, in this study, the oxygen crisis serves as a powerful illustration of the challenges of urban resilience in an emergency, where governing structures of different levels operated together locally, acting as agents of the national government or, more precisely, the Russian President (Busygina & Filippov, 2021; Klimovich, 2023).

In the extensive research on urban resilience, the majority concentrates on risk assessment, infrastructure, or climate-related phenomena (Cutter et al., 2008; Meerow & Newell, 2019). The epidemic has redirected attention to the manifestation of resilience in continuously disruptive social and political contexts. Some research has investigated the influence of public trust on pandemic outcomes, while others have emphasized the importance of institutional readiness and adaptive ability (Jennings et al., 2021; Lenton et al., 2022). Research has largely overlooked urban resilience within authoritarian governance settings, particularly at the municipal level.

The predominant focus of pandemic-related research has been at the national or regional level, resulting in a significant knowledge deficit about urban responses to the crisis. This focus applies especially to Russian environments (Gilev & Dimke, 2021). To address this gap the study focuses on Rostov-on-Don, one of Russia's largest cities and a significant regional economic, transport, educational and cultural hub in Southern Russia. Rostov-on-Don elucidates how secondary cities addressed pandemic difficulties within a multifaceted vertical power structure, in contrast to the capital cities that often prevail in analysis. The article focuses on emergency management as one of the determinants of urban resilience (Cutter et al., 2008). The research started with the hypothesis that the regional authorities played a crucial role in managing the COVID-19 pandemic at the urban level. However, the regional government always prioritised the interests of the federal centre over the interests of the local population, contributing thus to the regime's resilience rather than urban resilience.

The research examines the primary issue outlined below: How did national, regional and local government dynamics influence the implementation, reception, and outcomes of COVID-19 policies in Rostov-on-Don? The selected case, Rostov-on-Don, a regional capital in southern Russia, exemplifies a city without the political weight of Moscow or Saint Petersburg but with significant economic and logistical importance. It serves as the administrative centre of the Rostov region (population of 4.2 million) and the Southern Federal District. With over 1.1 million residents (Rosstat, 2023), it ranks among Russia's "millionniki" cities and is a key hub for education, healthcare, commerce, and public administration across several regions.

The study is based on the premise that governance practices, political incentives, and public trust significantly affect urban resilience alongside existing vulnerabilities and resource availability. Public health outcomes may be compromised by the priorities which the main actors managing an emergency define following the interests of its main principal at the expense of local needs. This study analyses the pandemic response in Rostov-on-Don and assesses its impact on urban resilience by examining policy documents, official comments, media accounts, and demographic data. It significantly contributes to the growing corpus of research on multilevel crisis governance and extends it into the underexplored domain of urban politics within authoritarian regimes. It offers an essential account of how political frameworks can affect the perception and efficacy of local public health initiatives.

The paper follows this structure. The next section presents the theoretical framework and delineates the key concepts of urban resilience, governance in building urban resilience, and public trust. The section then represents the regional and national framework of pandemic governance in Russia, followed by a description of the case study. The methodology section provides information on the procedures for data collection and analysis. The results section presents empirical findings about policy application, public response, and demographic effects. Finally, the discussion and conclusion examine the broader implications of the findings for urban resilience concept and future crisis preparedness.

## 2. Context

The COVID-19 pandemic in Russia emerged as one of the most significant health disasters the nation has faced in the past decades. Russia rapidly reached the highest tiers of nations affected by both infection and mortality rates, notwithstanding the Kremlin's attempts to downplay the severity of the pandemic. Official statistics obscured the actual magnitude of the disaster, as reported by Belianin and Shivarov (2020), due to the underreporting of fatalities and inconsistencies in excess mortality data (Alexeev & Yushkov, 2022). The sluggish vaccine rollout and diminished public trust in government-endorsed medical initiatives exacerbated Russia's response. Although Russia was among the first nations to document a COVID-19 vaccine—Sputnik V (Borisova et al., 2023)—the initiative to immunize the populace lagged behind other countries, indicative of considerable scepticism and limited logistical capabilities. The COVID-19 issue became another component of a series of crises for Russia, which included the ongoing at that time global oil war and a need for constitutional reform that had to guarantee regime stability after 2024 (Blackburn & Petersson, 2022; Monaghan, 2020; Smyth et al., 2020).

Understanding how the Russian governance system works is necessary to comprehend pandemic management in a Russian city. The Russian political regime is famous for the centralised "power vertical" established during two decades of Vladimir Putin's administration. Power centralisation started with the cessation of direct elections for regional governors in 2004 and persisted with a steady diminishment of local electoral procedures. The Russian regime structure allows the presidency and its networks to control the actual levers of power tightly. At the same time, democratic institutions serve symbolic purposes (Blackburn & Petersson, 2022). Systematic limitations on civil society and independent media reduce openness and help shape official narratives. Regional authorities, wary of punitive actions and reliant on federal approval, are motivated to show good data instead of honest outcomes (Gilev & Dimke, 2021).

The Rostov region and the city of Rostov-on-Don are the emblematic elements of the Russian political system. For instance, mayoral elections in Rostov-on-Don were abolished in 2014 (There Will No Longer Be Direct Elections of City Mayors in the Don Region, 2014), and by 2019, the final elected mayor in the Rostov region had resigned. Officially, these measures aimed to "depoliticize" municipal government and to save financial resources that were spent on organizing elections (The Last Elected Mayor in Rostov Oblast Resigned, 2019); nonetheless, they effectively reinforced loyalty-based appointments and diminished local autonomy.

President Putin seemed to take the pandemic emergency seriously, especially concerning his safety. Putin's primary opponent at the time, Alexei Navalny, coined the viral moniker "bunker dad" or "grandpa in a bunker" to describe this strategy (The Thanks to covid-19, 2021). However, in the realisation of the national anti-COVID policy, the focus was sometimes elsewhere. The federal government assigned a pandemic response to regional authorities (Busygina & Filippov, 2021). Although regional leaders were held responsible for containment policies, they had little freedom to create them. They worked under the unspoken assumption that they had to prevent the federal centre's instability. The differences between reported COVID-related deaths and excess mortality statistics, especially in the politically sensitive months of July, September, and December, became apparent in 2020 (Alexeev & Yushkov, 2022). These discrepancies point to methodical underreporting, probably driven by the need to show an image of control and competence.

Russia also practiced vaccine diplomacy on the world stage, for example, promising support to Italy or promoting Sputnik V as the most

excellent global answer to the epidemic even as domestic supplies suffered (Monaghan, 2020). The use of the pandemic for geopolitical manoeuvring highlighted the performative character of Russian crisis management—where the spectacle of success sometimes takes priority over meaningful results (Baer-Bader, 2020; Dodds et al., 2020).

## 3. Data and methods

This paper evaluates how local and regional authorities in Rostov-on-Don reacted to the COVID-19 epidemic, how the people responded to these actions, and what demographic effects followed by drawing on policy papers, media analysis, and statistical data.

To track the development of government actions, we gathered emergency-related policy documents approved during the pandemic from national, regional, and municipal levels. These documents were accessed through official government websites that host official orders and declarations: the official website of the Russian Federation government (Government of the Russian Federation, n.d.-b), the national portal of the official publication of legal acts (Government of the Russian Federation, n.d.-a), the official website of the regional government of Rostovskaya oblast (Government of the Rostov Region, n.d.), and the official website of the Rostov-on-Don city administration (Administration of Rostov-on-Don, n.d.). Because of the restrictions applied by the Russian government, most official websites were only reachable from overseas via VPN.

We selected the city's online source, 161.ru (161.ru, n.d.), to analyse media publications. Russia's leading media and social media monitoring and analysis company, Medialogia (https://www.mlg.ru/), defined its ranking as the most quoted. From January 2020 to March 2025, all the articles marked with the tag “COVID” were gathered. We classified these papers and user comments by theme to evaluate official narratives, the local population's perception of the approved measures, and the most important pandemic-related events in the city. The number of comments per article indicated reader interest; the focus was on the most discussed articles while evaluating the people's perceptions of the events and policies. Based on the most notable events, we selectively evaluated supplementary materials from various international, national, regional, and local sources.

We looked at regional and municipal-level data from the Federal State Statistics Service (Rosstat) to investigate the local and regional demographic impact of the COVID-19 pandemic. The municipal statistics are limited, which does not allow evaluation of the pandemic's impact on other urban systems. Additionally, we used the open datasets created by the platform “Death rates in the regions of Russia” (RosBRIS Center for Demographic Research of the Russian Economic School, 2024) to assess changes in mortality during the pandemic. The statistics on the causes of death are available only at the regional level. Moreover, these statistics have always been manipulated by the regions to “improve” the death indicators in correspondence with the ambition of the national government. One of the ways to manipulate this statistic is the “correct” coding of death causes: thus, in the Rostov region, the most frequent cause of mortality from “unspecified” causes was “death from old age” (Guseva & Shukurov, 2024). Considering these issues with the data quality, we evaluated the change in mortality in different age groups caused by pneumonia, comparing the pre-pandemic and pandemic periods.

Since any attempt to completely grasp the influence of the COVID-19 pandemic in Rostov-on-Don must also consider the larger geopolitical setting, the study spans January 2020–February 2022. The area's closeness to Ukraine and its role as the destination for Ukrainian refugees have affected local demographics since 2014. More recently, economic sanctions, military mobilisation, and war-related deaths have had a further impact—one that will become more detectable over the coming years.

## 4. Urban resilience as an interpretive lens for pandemic governance

Intensifying global urbanisation, coupled with political, economic, and environmental instability, has heightened the significance of urban resilience (Asadzadeh et al., 2022; Brunetta et al., 2023; Godschalk, 2003; González Castillo et al., 2022). Although widely adopted, the concept of urban resilience remains ambiguous and contested (Burayidi, 2020; Cutter et al., 2008; Meerow et al., 2016; Pickett et al., 2004; Reid & Botterill, 2013). Most definitions emphasise the capacity of cities to respond to shocks through resistance, adaptation, transformation, or recovery while maintaining essential functions, often within the frameworks of risk management and system interactions (Beesley et al., 2023; Kimber, 2019). Urban resilience is therefore best understood as a dynamic, context-dependent outcome shaped by governance decisions that mobilise existing capacities over time, rather than as a static system property. This interpretation aligns with differentiated approaches such as “multi-resilience” (Beesley et al., 2023; Fathi, 2022), which recognise that cities may exhibit resilience in certain dimensions while remaining vulnerable in others (Castaño-Rosa et al., 2022; Zhang & Wang, 2023). This distinction is particularly important for analysing crises that produce uneven impacts across urban contexts.

Crucially, resilience does not materialise automatically from these conditions: it is actively shaped through governance. In this sense, governance constitutes a central mechanism through which resilience is produced, constrained, or redirected. The COVID-19 pandemic highlighted the importance and complexity of governance in building urban resilience. In general, the concept of resilience is locally oriented (Burayidi, 2020; Welsh, 2014). However, confrontation the global pandemic called for coordinated actions from global institutions, national governments, regional authorities, and municipal actors, so emphasising the need of multilevel governance during the COVID-19 pandemic (Svitková, 2021; Zavadskaya, 2024) even if there was always a tendency to shift the responsibility for the emergency management to the local communities (Begg et al., 2017; Burayidi, 2020). The efforts of multilevel governance during the pandemic were necessary for managing the issues, responsibility for which lays at the higher levels (like closing the borders, regulating migration flows or management the healthcare systems) and bringing the additional resources to the vulnerable territories. Yet the effectiveness of pandemic response was shaped not simply by the availability of resources, but by political decisions regarding whether, how, and for what purposes these resources were deployed (Beesley et al., 2023). In a multidimensional crisis affecting health, economic activity, and social life simultaneously, governance actors were forced to prioritise among competing objectives, such as public health protection, economic continuity, or political stability (Zhang & Wang, 2023). These prioritisation choices are central to understanding divergent resilience outcomes. Therefore, the governance issue is an important component of resilience building, and many research focused on the attempts to understand what influenced effective COVID-19 crisis management, exploring different aspects – from the political regimes to the information use (Annaka, 2021; Dodds et al., 2020; Górska et al., 2022; OECD, 2021; Wu et al., 2022; Zavadskaya, 2024).

In authoritarian systems like Russia's, the state governance is marked by a very centralised and personalised structure, “power vertical”, where democracy is only “façade” (Blackburn & Petersson, 2022), and by the bad quality of governance (Gel'man, 2017; Gilev & Dimke, 2021; Gill, 2023). As a result, the capacity of cities to shape their own crisis responses is structurally constrained. In the conditions where the role of local authorities is minimal due to the specificity of power and financial resources allocation (Khmelnitskaya & Ihalainen, 2021; Martinez-Vazquez & Timofeev, 2008), the role of the regional authorities in building urban resilience becomes more significant. However, regional authorities, having two formal principals — the President and the people of the region (Klimovich, 2023), mostly act as agents of the national

government (Kozlov & Volynchuk, 2019; Ross et al., 2022). This principal's prioritisation makes the relationship between the center and the regions stable, even if they cannot be characterised nor strong nor effective (Gill, 2023). The principal-agent problem exposed the ongoing nature of this interaction during the pandemic (Busygina & Filippov, 2021). Some studies have shown how pandemic management in Russia gave political objectives priority over public health issues (Blackburn & Petersson, 2022; Busygina & Filippov, 2021). Such prioritisation has direct implications for urban resilience, as it shapes which capacities are activated and which vulnerabilities remain unaddressed.

Governance in the framework of pandemic management is not only the institutional capacity to develop and implement effective public health policies but also the ability to ensure public acceptance and compliance with those policies. (Assefa et al., 2022; Beesley et al., 2023; Jennings et al., 2021; Lenton et al., 2022). Since the final goal of such policies should be the protection of human lives and health, public confidence becomes particularly crucial. Well-designed policies still run the risk of being compromised without citizen support and cooperation. Public trust was connected to greater compliance with health policies and overall crisis resilience (Lenton et al., 2022). Conversely, widespread lies and intentional information manipulation were shown to reduce public willingness to support restrictive policies or to get vaccinated (Lamberova & Sonin, 2022). Given the state's long-standing failure to appropriately manage previous crises, public trust in Russia was already fragile (Borisova et al., 2023). Although efforts were made to keep confidence in the central government (Blackburn & Petersson, 2022; Busygina & Filippov, 2021), these were lacking.

Though some regional-level Russian studies on these dynamics exist, urban-scale research is sadly lacking. Globally, urban-level research on pandemic governance is still relatively rare (Liu et al., 2024; Machado et al., 2021); in the Russian context, they are even more so. Given this gap, further urban-level research on the intersection of governance, trust, and resilience is not only timely but essential.

## 5. Urban resilience in practice: COVID-19 policy implementation and public perception in Rostov-on-Don

### 5.1. Pandemic evolution in the region

The COVID pandemic unfolded in the Rostov region in correspondence with the general national trend with some regional specifics. While the first cases of COVID infection were registered in Russia in March 2020, the first confirmed COVID case in the Rostov region was reported on 25.03.2020 (Kovalev et al., 2020). The information about the first case was immediately available in the media (161.ru, 25 March 2020). By June 2020 Rostov oblast had reached 6th place in the country in terms of the number of cases (161.ru, 13 June 2020). The region experienced four waves of pandemic before its official end declared by the WHO in May 2023 (UN News, 2023).

Following a gradual rise in infections during the spring 2020 with the slight decline in summer 2020, the region experienced a significant escalation in the autumn of 2020. The second wave intensified in October 2020. Rostov Oblast was listed among the top four Russian regions for COVID-19-related deaths (161.ru, 28 October 2020) following Moscow, Moscow Oblast and Saint-Petersburg. Subsequent waves in autumn 2021 and early 2022 brought new record levels of daily infections and deaths. During the rapid Omicron-driven surge in early 2022, daily cases exceeded 4000 in February 2022 (161.ru, 10 February 2022).

The city of Rostov-on-Don at all stages of the pandemic was obviously the riskiest municipality due to its size and concentration there of most economic activities of the region (Kovalev et al., 2020).

### 5.2. Demographic effects of the COVID-19 pandemic in Rostov-on-Don and the Rostov region

The COVID-19 epidemic significantly disrupted demographic patterns in Rostov-on-Don and the Rostov region. In the post-Soviet period, the city demonstrated relatively stable population growth — 11% from 1989 to 2022, with a few exceptional years. However, the Rostov-on-Don agglomeration (Rostov-on-Don together with its satellite cities Bataysk and Aksay) was the only demographically growing pole in the region (two other cities demonstrated population growth in the same period only due to the changes in their administrative borders) (Fig. 1). A similar situation is relevant in most Russian regions, where about 70% of cities are shrinking, and only regional capitals demonstrate urban growth (Batunova & Gunko, 2022). The pandemic years turned this long-standing upward trend around. A dip followed the population peak of 1,137,904 achieved by Rostov-on-Don in 2020 in both 2021 and 2022 (Fig. 2).

The analysis of the components of population changes in Rostov-on-Don shows that the demographic situation in the last decade was characterised by the positive migration balance on the background of negative or slightly positive natural population change. However, the years 2020 and 2021 differ dramatically from the previous ones: the rate of natural increase dropped from an average of −1 to +1 ppm to −4.2 ppm in 2020 and then to −7.7 ppm in 2021. The natural population growth dropped due to increased mortality (45% in 2021 compared to the median in 2012–2021) and decreased natality (14% in 2021 compared to the median in 2012–2021). While the decreased birth rate was almost equal in 2020 and 2021, the death rate in 2021 increased significantly and was 126% of that in 2020 (Fig. 3).

A more detailed investigation shows that the death rate increased particularly sharply in the senior age groups. Mortality among those over 50 during 2020–2021 significantly exceeded the pre-pandemic trend in 1999–2019 (Fig. 4). According to recent investigations, the causes of death are frequently misclassified or vaguely described, concealing the true magnitude of COVID-19 mortality. A significant number of fatalities in the Rostov region were attributed to ambiguous or non-specific causes, mirroring trends observed in other Russian regions, hence highlighting systemic issues in death reporting methodologies (RosBRIS Center for Demographic Research of the Russian Economic School, 2024).

The epidemic also changed migration patterns. Historically, Rostov-on-Don kept a positive balance of migration even as the Rostov region oscillated between modest losses and increases. During the pandemic years, the total number of arrivals slightly declined, but the pattern of migration changed dramatically in 2020 and 2021. With foreign arrivals rising from a median of 3478 (2012–2019) to 7854 in 2020 and 7345 in 2021, the international part of migration expanded (Fig. 5).

There is no detailed data on the origins of those migrations. However, the significant drop in interregional migrants' arrivals and the increase in international migrants' arrivals might mean that the migration balance was maintained only due to the increasing instability on the Russian Ukrainian border.

In the absence of detailed intra-regional migration data, residential shifts during the pandemic can be assessed only indirectly through municipal population change. Analysis of 420 municipalities in the Rostov region (2020−2022) shows that only 33 recorded population growth above 2%, with growth largely concentrated near major cities, including Rostov-on-Don. Of the twelve municipalities directly adjacent to Rostov-on-Don, most had already experienced sustained population growth over the previous decade, driven by long-term suburbanisation rather than pandemic-induced relocation. Overall, pandemic-period population change followed pre-existing spatial trajectories rather than indicating a fundamental shift in residential preferences.

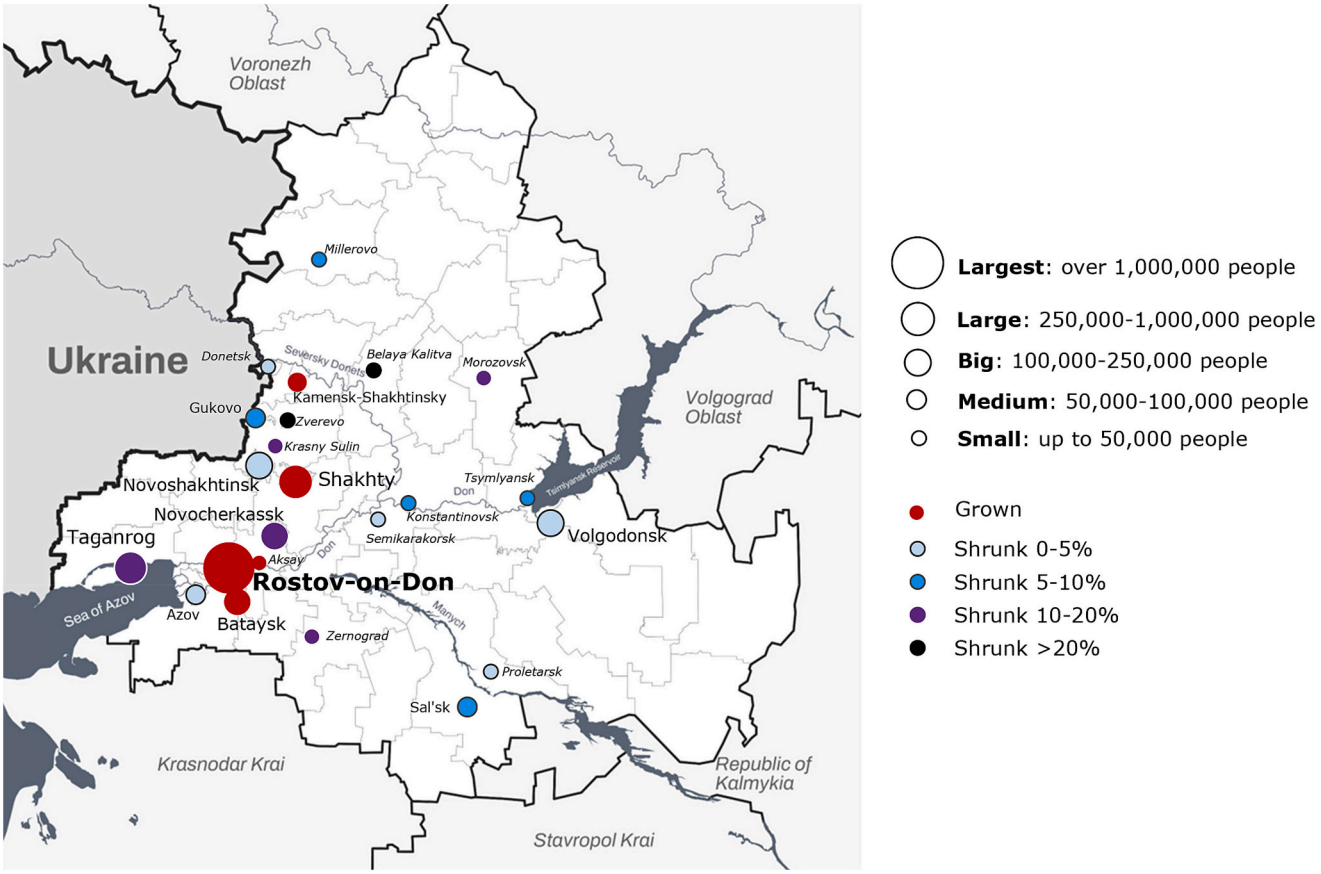


**Fig. 1.** Population size change in the cities of the Rostov region in 1989–2020 (the diagram is produced by the author based on the statistical data from Rosstat, 2023).

### 5.3. *Anti-COVID policies: Actors and measures*

The analysis of anti-COVID policies and measures implemented locally in Rostov-on-Don demonstrated that the regional authorities played a central role in the decision-making process (see Table 1). A comparison of the policy documents' numbers and their content showed that the regional government issued key resolutions regarding restrictions, mechanisms of state support, vaccination regulations, and enforcement mechanisms, among which the most important was the Resolution of the Government of Rostov Oblast No. 272 (5 April 2020) "On Measures to Ensure the Sanitary and Epidemiological Well-Being of the Population in Connection with COVID-19".

In contrast, the municipal level, particularly the city administration of Rostov-on-Don, had a limited strategic role. These actions included the introduction of self-isolation (March 30, 2020), mask mandates (April 30, 2020), and the launch of digital pass systems (April 19–22, 2020). The municipal authorities of the city of Rostov-on-Don were responsible mainly for the operational aspects of policy implementation, such as organizing the special pass distribution points, the regulations of public transport functioning, monitoring local businesses' work or organization of vaccination sites. The municipality was more an implementing agent than a policymaking body. Unlike in democratic countries, where pandemic governance also had a tendency to centralisation, pandemic centralisation in Rostov primarily served political control, prioritising regime resilience over urban resilience and weakening effective urban responses.

Despite the leading role in pandemic management that the regional governments were supposed to have due to the national decision, the regional response closely followed national-level developments, particularly the timing and content of President Putin's speeches and federal government directives. For instance, immediately after President Putin announced non-working days and supportive measures on March 25, 2020, the governor of the Rostov region, Vasilii Golubev, addressed the citizens two days later, declaring the need for non-working days and some additional supportive measures from the regional government's side. However, the governor also tried to work ahead of the curve: he introduced an intention to punish "disseminators of fake information" (161.ru, 27 March 2020) – the measure that Putin introduced on (161.ru, 01 April 2020).

Policy synchronization was also evident during the vaccination phase. On January 13, 2021, Putin has ordered a transition from large-scale vaccination to mass vaccination (161.ru, 13 January 2021). The regional government of Rostov Oblast launched mass vaccination on January 18, 2021, simultaneously declaring vaccine shortage (161.ru, 15 January 2021). Months later, in June–July 2021, the introduction of mandatory vaccination for certain professional groups in Rostov-on-Don (161.ru, 16 June 2021) followed similar mandates issued in Moscow (161.ru, 01 July 2021) – the exemplary region for policies replications in Russia.

The focus of regional policy during the pandemic evolved over time but remained largely oriented toward containment through restrictions and enforcement. Thus, the first issued measure implemented before the first COVID case was reported in the region was restrictive: the regional government banned the events of more than 500 people (161.ru, 16 March 2020) and the governor established a high alert regime by his order. From April to June 2020, a strict regime of self-isolation, mask mandates, and movement controls was enforced, with later additions such as QR-code access to public places introduced in 2021. An illustrative example of the focus on restriction over strategic planning was Governor Golubev's obsession with mask-wearing, evident in the

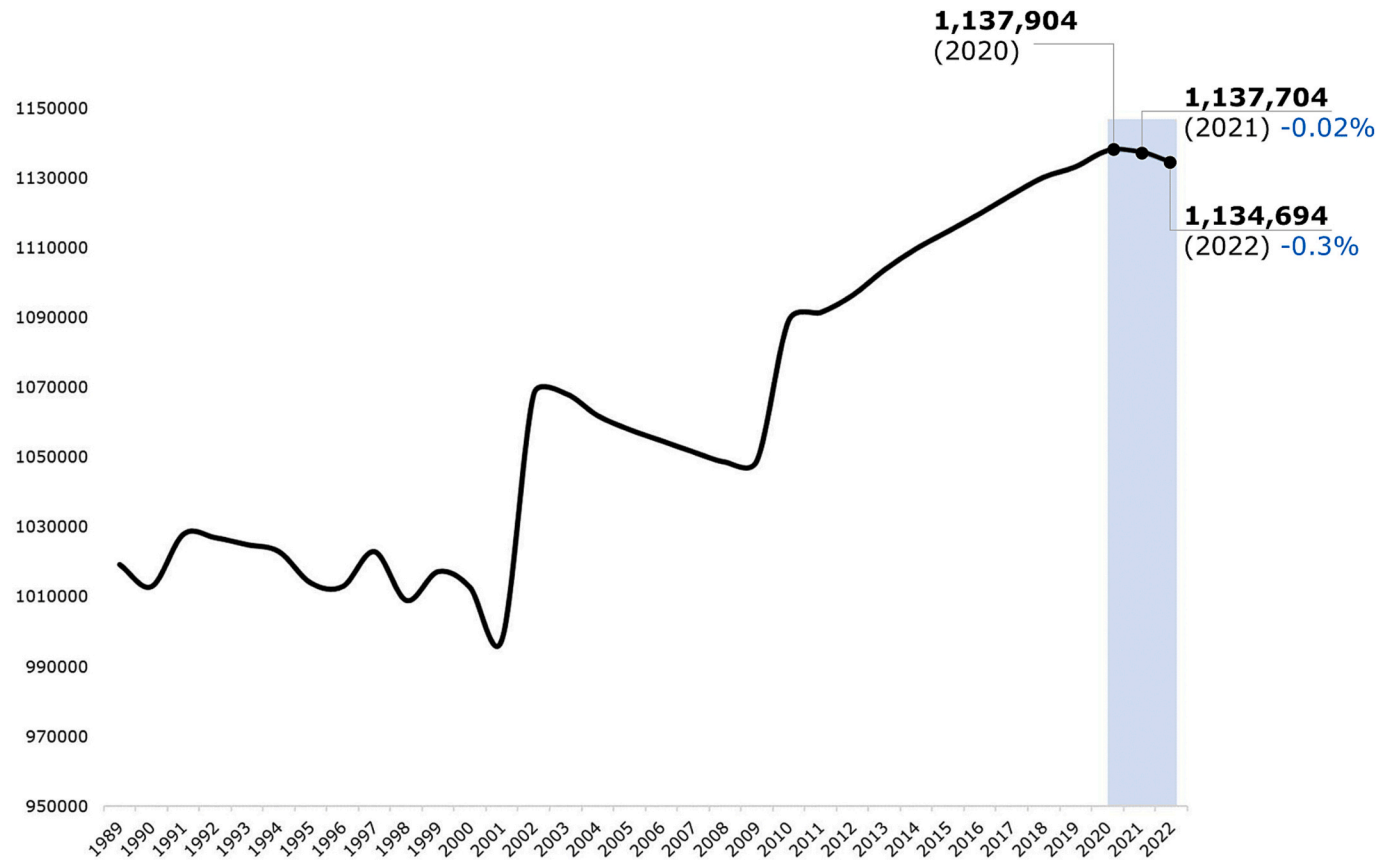


**Fig. 2.** Total population of Rostov-on-Don (1989–2022) (Rosstat, 2023).

repeated declarations. The Governor's public statements included, for example, threatening to dismiss officials who failed to comply (161.ru, 20 May 2020) and proposals to introduce a rating system for municipalities based on adherence to mask mandates (161.ru, 13 May 2020). In contrast, only two calls from the municipal authorities to wear masks published in the local media. Economic and social support measures were comparatively less prominent and often introduced in response to federal-level initiatives. For example, in April 2020, the Rostov regional government introduced limited local aid, such as one-time payments for families and a temporary halt to utility charges.

The healthcare system falls under the jurisdiction of regional authorities, and during the COVID-19 emergency, the Rostov regional government made considerable efforts to adapt its facilities. However, even in this domain, federal intervention proved necessary. The Russian Ministry of Defence constructed a military hospital in Rostov-on-Don in just 56 days (161.ru, 15 May 2020), while another COVID-dedicated facility was opened by the Federal Medical-Biological Agency “at the request of the regional authorities” following a formal appeal from the oblast's leadership (161.ru, 03 November 2020).

An analysis also indicates that symbolic and political priorities often preceded epidemiological concerns. One of the most notable examples is the sustained preparation for the Victory Day Parade in May 2020, even as hospital conversion into infectious disease wards was underway (161.ru, 04 June 2020). Moreover, the regional government planned to organize a buffet for 500 people for Victory Day on May 7, 2020, the electronic application for which was posted on the state procurement portal on April 15, a few days after the governor announced his refusal to ease the self-isolation regime (161.ru, 21 April 2020). Although the government cancelled the buffet and postponed the Parade to June 24, 2020, it occurred only after a national-level decision, not in response to local health trends. However, the state representatives declared that the Parade did not provoke an increase in the cases' number without evidence (161.ru, 09 July 2020).

Even when public health conditions made it impossible to organize mass events, regional authorities in Rostov-on-Don were reluctant to cancel those tied to patriotic themes. In August and September 2020, while the regional government officially banned all mass gatherings due to rising COVID-19 cases, they made an exception for the opening of the Sambeck Heights Museum and National Military History Complex (Garichyan, 2020i). In October 2020, local media reported that the regional government spent one million roubles to fund a concert with no audience, justifying the expenditure by stating that the event aimed to “strengthen the unity of the Russian nation.” (161.ru, 18 August 2020).

Conversely, protests, unauthorized public gatherings, and opposition-related events were either discouraged or restricted through enforcement measures. Thus, the regional authorities immediately declared that the protest actions on 23 and 31 January 2021 that followed Alexey Navalny's arrest would lead to a coronavirus outbreak (161.ru, 02 February 2021).

### 5.4. *Effects, perception, success and failures*

The centralised and enforcement-heavy logic used to implement COVID-19 policies in Rostov-on-Don resulted in limited epidemiological success and increased public resistance and mistrust. Public trust in this analysis is not assessed using opinion surveys or individual-level data, as these sources are often unavailable or unreliable in the Russian context. Instead, trust is conceptualized as an analytically inferred condition, evidenced by observable behavioural patterns such as vaccination uptake, compliance with restrictions, protest activity, and the development of informal practices designed to circumvent official regulations. Even though the institutions responded quickly, as evidenced by the early implementation of pass systems, mass vaccination campaigns, and self-isolation, public cooperation declined because the policies seemed

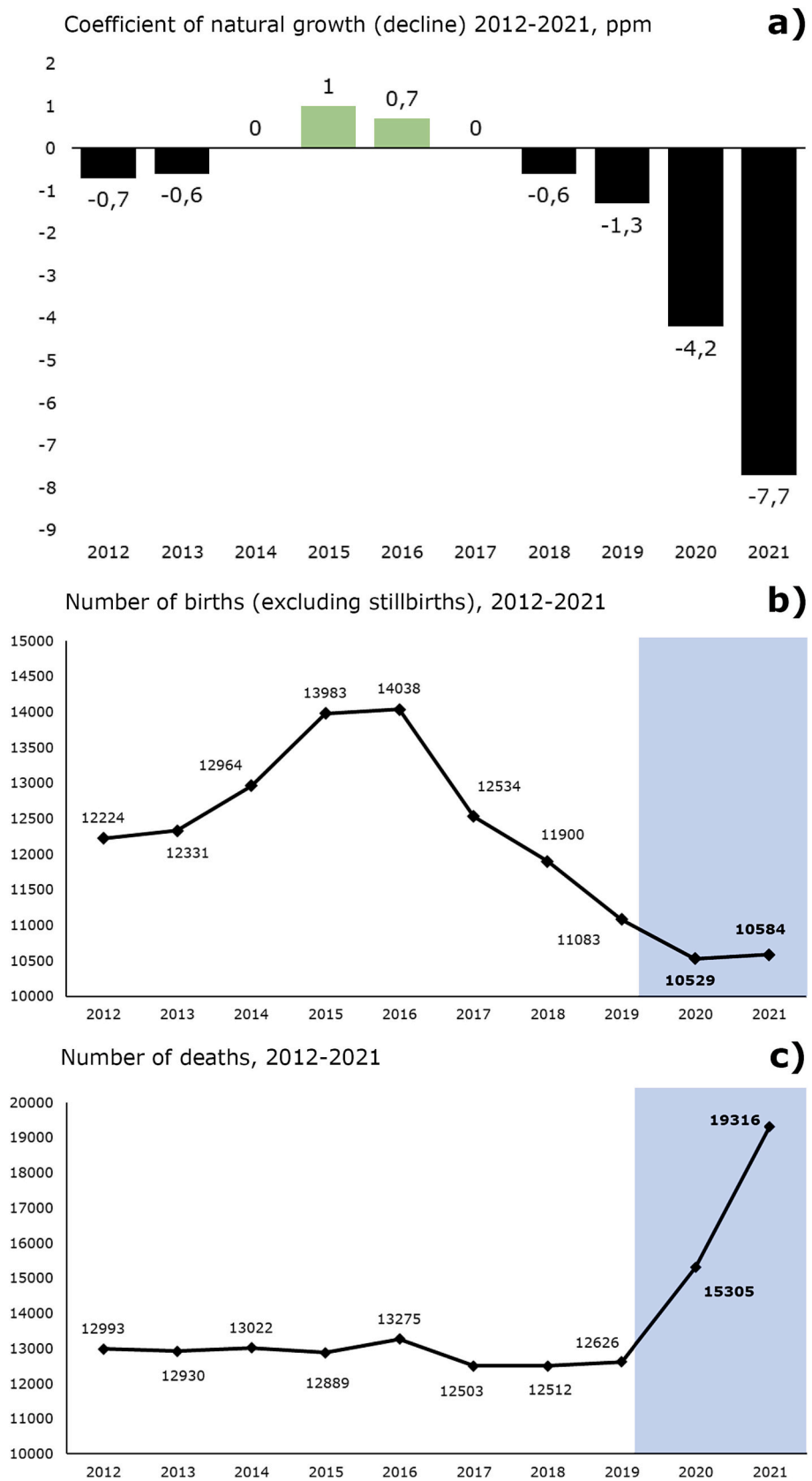


**Fig. 3.** Population change's components in Rostov-on-Don in 2012–2021: a) Coefficient of natural growth (decline) 2012–2021, ppm; b) Number of births (excluding stillbirths); c) Number of deaths.

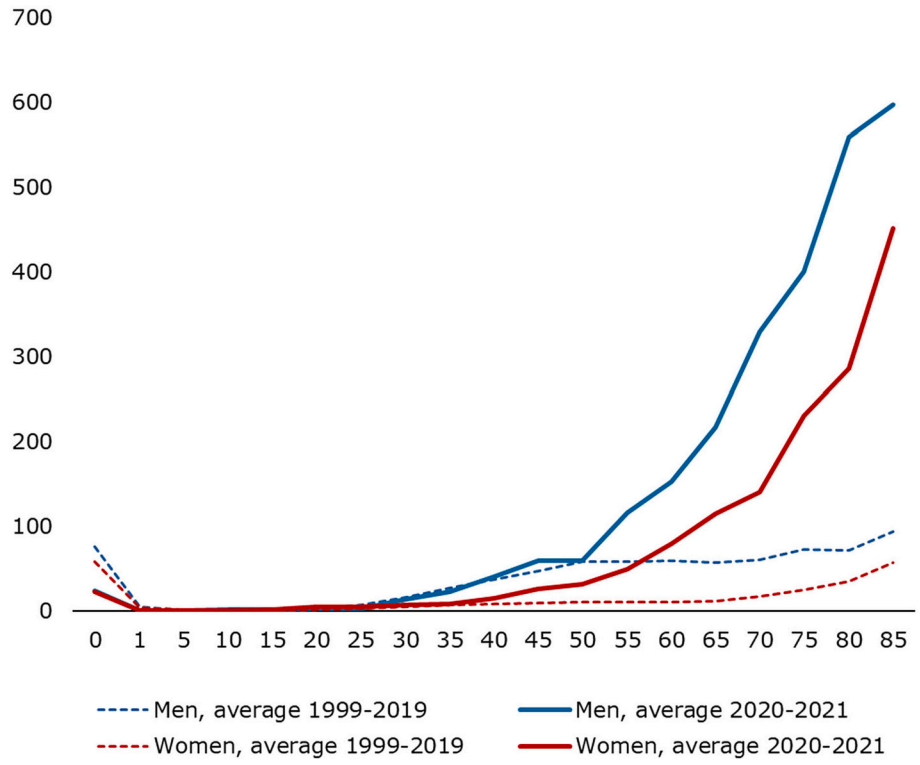


**Fig. 4.** Comparison of pre-pandemic (1999–2019) and pandemic (2020−2021) mortality from pneumonia by age groups.

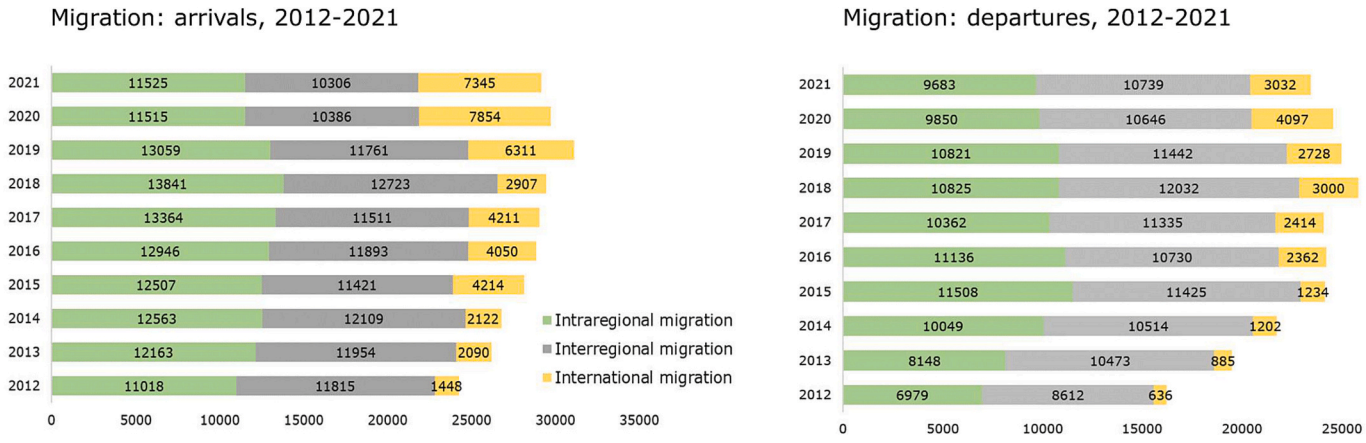


**Fig. 5.** Structure of Migration to and from Rostov-on-Don by Type (2012−2021).

punitive, inconsistent, and out of touch with the realities of the populace.

Early initiatives, like the April 2020 requirement for digital passes to move around the city, were immediately resented. These limitations were put in place after the system swiftly fell into disarray and cases had spread widely. Through social media and public inquiries directed at city manager Alexey Logvinenko (161.ru, 20 April 2020), residents expressed dissatisfaction with local governance and asked why fines in Rostov-on-Don were allegedly higher than in Moscow. In response, a black market for fake passes developed, with people selling them for up to 9000 roubles (161.ru, 24 April 2020).

Inhabitants of Rostov-on-Don commenced “online protests” that subsequently proliferated to other cities across the nation. The digital protests were orchestrated on the Yandex Maps platform, where local inhabitants placed geotags with remarks outside the regional government edifice, advocating for the removal of coronavirus restrictions or a total quarantine (161.ru, 20 April 2020).

More than half of the local population was against the COVID-19 vaccination in November 2020 (161.ru, 8 Nov 2020). With the implementation of vaccination requirements for specific workers in the summer of 2021, the issue grew more serious. Russian Railways workers openly opposed vaccination laws that threatened to terminate their employment or cause them to take unpaid leave (161.ru, June 28, 2021). Concurrently, the illicit trade in counterfeit vaccination certificates grew, resulting in criminal investigations and even the resignation of a clinic director whose employees were found to have engaged in certificate fraud (161.ru, 29 June 2021).

Long-term discontent was also expressed by cultural institutions and small businesses. Concert organizers decried the prolonged ban on events—still in place in September 2020—even while political and military gatherings were permitted, exposing the double standards in policy enforcement (161.ru, 4 Sep 2020). Despite the lack of clear

**Table 1**
Legislative activity of the Rostov regional government during COVID-19 waves.

| Pandemic Wave Period | New Regional Documents Approved | Amendments to the Resolution № 272 | New municipal documents approved | Amendments to the documents |
|---|---|---|---|---|
| 1st Wave (Mar–June 2020) | 18 | 2 | 1 | 1 |
| 2nd Wave (Sep 2020–Feb 2021) | 2 | 0 | 1 | 2 |
| 3rd Wave (Jun–Aug 2021) | 3 | 3 | 0 | 0 |
| 4th Wave (Sep–Dec 2021) | 9 | 10 | 0 | 0 |
| Omicron Wave & End (Jan–Mar 2022) | 5 | 6 | 1 | 0 |

communication or support systems, restaurateurs and hoteliers expressed their outrage when, in August 2021, QR-code access measures barred unvaccinated citizens from public areas. There have been calls to relax restrictions or postpone curfews after the hospitality industry reported revenue drops of up to 80% (161.ru, 10 Nov 2021; 161.ru, 1 Dec 2021).

The policy failures were further emphasized by public health experts criticizing the state's approach. Several doctors and scientists called attention to the manipulation of COVID-19 statistics, with confirmed cases being recategorized as flu or ARI diagnoses to produce a more favourable image (28 Nov 2021). Others warned that the emphasis on punishment and control—rather than persuasion and transparency—was eroding any remaining trust in the system (26 Aug 2021, 21 Oct 2021).

## 6. Discussion

The empirical findings of this study can be summarised through the lens of urban resilience as shaped by pandemic governance. Fig. 6 synthesises these findings by illustrating how governance arrangements structured crisis responses and directed resilience outcomes in Rostov-on-Don. Five interrelated findings are particularly important.

First, pandemic governance in Rostov-on-Don primarily operated as an extension of the existing multilevel governance structure, rather than serving as a mechanism for locally adaptive resilience-building. Urban governance was reduced to the operational functions dictated by the prevailing governance model. The regional government made the principal decisions affecting the city, adhering closely to national policy directives. As illustrated in Fig. 6, this arrangement constrained the city's ability to establish its own resilience priorities.

Second, the governance response emphasized restrictive and enforcement-oriented measures instead of adaptive or preventive strategies, shaping the nature of crisis response without expanding urban adaptive capacity. Regional policies focused on lockdowns, mask mandates, QR-code systems, and other restrictive actions rather than fostering preventive or adaptive measures. Within the resilience framework, these interventions provided short-term control but did not improve the city's capacity for flexible, long-term crisis response.

Third, pandemic governance in the Rostov region systematically prioritised regime resilience over urban resilience, allocating political attention and resources to maintaining regime stability rather than enhancing the city's capacity to withstand the pandemic. Regional authorities acted as agents of the national government, with this prioritisation evident in decisions related to the organization of political events and the imposition of restrictions. This finding aligns with the core mechanism depicted in Fig. 6, where resilience objectives are established at higher governance levels and implemented through enforcement-oriented governance.

Fourth, public trust emerged as a critical mediating factor in translating governance measures into urban resilience outcomes. Low vaccination rates, resistance to restrictions, and black-market activities involving vaccination certificates in Rostov-on-Don indicated widespread dissatisfaction and mistrust. As depicted in Fig. 6, the lack of public trust limited the activation of existing capacities and reduced the effectiveness of pandemic governance at the city level.

Fifth, the pandemic generated demographic consequences that pose long-term constraints on urban resilience, extending beyond the immediate health crisis. The COVID-19 pandemic altered urban demographic profiles through increased mortality, reduced birth rates, and shifting migration patterns. While similar population declines occurred in many European cities (Wolff & Mykhnenko, 2023), cities such as Rostov-on-Don had rarely questioned the prospect of long-term growth, and urban development was predominantly planned on the assumption of continued expansion. The persistence of these growth-oriented assumptions, despite demographic decline, threatens to further undermine

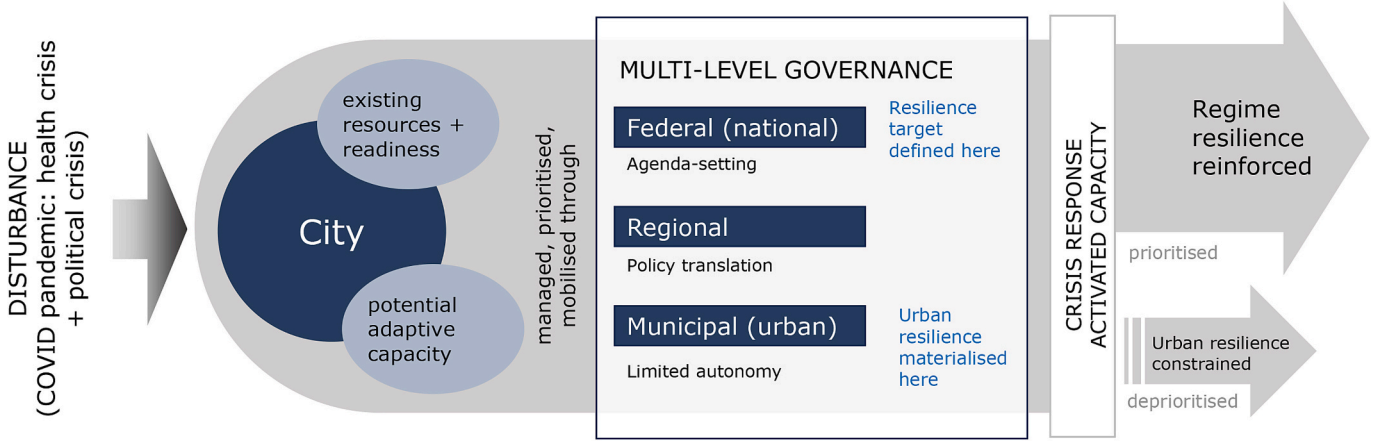


**Fig. 6.** Multilevel pandemic governance and the prioritisation of resilience outcomes.
The figure shows how multilevel pandemic governance shaped resilience outcomes by directing existing capacities toward regime stability rather than urban resilience. Resilience priorities were defined at higher governance levels and translated downward through crisis response, resulting in reinforced regime resilience and constrained urban resilience at the city level.

urban resilience, as policies that disregard demographic change restrict cities' capacity to adapt to evolving conditions.

The findings indicate that pandemic resilience outcomes in Rostov-on-Don were influenced more by the structure of multilevel pandemic governance than by institutional capacity. Although some scholars contend that non-democratic regimes had advantages in managing the COVID-19 crisis (Annaka, 2021), the case of Rostov-on-Don demonstrates that these advantages are contingent upon the prioritisation of specific resilience objectives and the governance level at which they are addressed. As summarised in Fig. 6, pandemic governance primarily channelled existing capacities toward enforcement and regime stability, rather than enhancing urban resilience.

While the Rostov region exhibited the institutional capacity to implement restrictions and mobilise health infrastructure, including temporary hospitals, the translation of this capacity into urban outcomes was inconsistent. Governance structures constrained local discretion and emphasized adherence to centrally defined policies over locally adaptive responses. This arrangement exemplifies the principal–agent relationship between national and regional authorities identified in previous research (Busygina & Filippov, 2021; Klimovich, 2023), underscoring its importance for urban crisis management. Political systems are therefore significant not only for pandemic management in general (Dodds et al., 2020), but also for determining how crises are experienced and addressed at the urban level.

Public trust functioned as a crucial mediating factor within this governance framework. In Rostov-on-Don, regulatory inconsistencies and selective enforcement further eroded already fragile trust, leading to resistance, the emergence of alternative practices such as black markets for vaccination certificates, and reduced vaccination uptake. From the perspective of urban resilience, these dynamics limited the mobilisation of existing capacities and weakened the social foundations required for effective crisis response.

Debates regarding the seriousness with which Russian authorities addressed the pandemic (Åslund, 2020; Belianin & Shivarov, 2020; Blackburn & Petersson, 2022) may be reframed by considering whose resilience was prioritised. Although the federal centre refrained from fully activating the 'power vertical' and delegated responsibility to regional authorities, these authorities lacked sufficient autonomy to formulate locally tailored strategies. As depicted in Fig. 6, this governance structure reinforced regime resilience while constraining urban resilience.

The Rostov-on-Don case advances urban resilience research by illustrating that resilience cannot be attributed solely to resource availability or technological capacity. Rather, resilience outcomes are shaped by how governance structures prioritise objectives, assign responsibility, and mobilise capacities in response to crises (Fathi, 2022). Cities serve as the settings where these decisions intersect with daily life, where trust is either established or diminished, and where resilience is ultimately evaluated (Liu et al., 2024; Zavadskaya, 2024). The findings indicate that pandemic governance strategies focused primarily on containment, rather than adaptation, may undermine long-term urban resilience in the context of protracted crises.

This study is subject to several limitations. Data reliability is a significant concern, as municipal-level data beyond demographic statistics are scarce and may be susceptible to manipulation (Borisova et al., 2023). Furthermore, the single-case design restricts generalisability, although Rostov-on-Don's status as a regional centre enhances its analytical significance. The lack of survey data or interviews also limits understanding of micro-level dynamics related to trust and compliance. Future research that integrates qualitative fieldwork with urban-scale analysis could provide greater clarity on how governance decisions influence resilience outcomes.

## 7. Conclusion

Effective preparation of cities for large-scale crises such as global pandemics depends on understanding how governance shapes urban resilience. This study investigates the influence of multilevel pandemic governance on the development or lack thereof of urban resilience in Rostov-on-Don during the COVID-19 pandemic. The results reveal a strong connection between governance priorities, public trust, and demographic outcomes. Although governance structures appeared decentralised, decision-making was highly centralised; the municipality was limited to operational tasks, while regional authorities primarily implemented national directives. This arrangement determined local pandemic responses within the constraints of an authoritarian political system.

In Rostov-on-Don, resilience was primarily conceptualized as containment and enforcement, with limited emphasis on public engagement or long-term adaptation. In settings characterised by low public trust, top-down restrictive measures increased public dissatisfaction and reduced compliance. Inconsistent regulations, politicised health policies, and inadequate communication further widened the gap between state institutions and the urban population, thereby eroding the social foundations required for sustained urban resilience.

The pandemic produced significant demographic effects in Rostov-on-Don, exacerbating long-standing limitations on urban resilience. Although the city had served as a regional growth center, increased mortality, declining birth rates, and shifts in migration patterns during COVID-19 resulted in a marked demographic disruption. Comprehensive assessment of the pandemic's impact on Russia's urban and demographic trends remains challenging due to the ongoing war, which has intensified pre-existing demographic issues. This case demonstrates that urban resilience is undermined when political loyalty takes precedence over adaptive and context-sensitive governance.

This study advances discussions on urban resilience in authoritarian contexts by emphasising the significance of governance quality, institutional autonomy, and public trust in determining resilience outcomes. It highlights the necessity of urban-scale research in non-democratic environments and shows that political priorities focused on regime stability can restrict urban resilience by widening the divide between institutional actors and local communities. Despite limitations regarding data availability and generalisability, the Rostov-on-Don case provides important insights for scholars and policymakers addressing crisis governance and urban resilience.

## CRediT authorship contribution statement

**Elena Batunova:** Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

## Declaration of Generative AI and AI-assisted technologies in the writing process

In the proofreading phase, I used GPT 5.2 to enhance language and clarity. After utilising these tools, I meticulously examined and refined the language, as required. Consequently, I assume full accountability for the content.

## Funding

This article draws on work conducted on the Rostov-on-Don case within the framework of the Cities.Building.Culture project, supported by the Federal Ministry for Research, Technology and Aeronautics (BMFTR) (Grant Number 01UC2110B).

## Declaration of competing interest

The author reports there are no competing interests or conflicts to declare.

## Data availability

Data will be made available on request.

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