

Section 5. Social Sphere

5.1. Incomes and the poverty line of the population¹

5.1.1. Dynamic of the population's income and its components

In 2020, the real disposable cash incomes of the population contracted by 3.5% relative to the previous year, while the real accrued wages and real granted pensions went up by 2.5 and 2.3%, respectively (*Fig. 1*).

The reduction in real disposable cash income was due to the economic difficulties caused by the proliferation of the coronavirus infection. The shutdown of a host of organizations in spring 2020 and the decline in consumer demand, in the first place for non-food products and services, reported in Q2-4 2020 (retail sales turnover came to 84.0, 98.4 and 97.2%, respectively of the same period of 2019) resulted in the cut in household incomes.

In 2020, the total value of cash incomes of the population went down by 3.0% in real terms against 2019, while the amount of remuneration of wages and salaries of employees decreased by merely 0.9% in real terms (*Fig. 2*).

If the volume of wages of employees of organizations increased by 0.6% in real terms, then the wages of hired workers not employed by organizations, declined in 2020 by 4.7% in real terms against 2019 (*Fig. 3*). This being said, incomes from business activity and from property, as well as other cash incomes, decreased in real terms by a larger margin: by 15.9, 18.2, and 16.4%, respectively (*Fig. 2*).

The decrease in consumer demand led to cash incomes of the population spent on purchasing of goods and service to fall by 4.7 p.p. relative to the previous year

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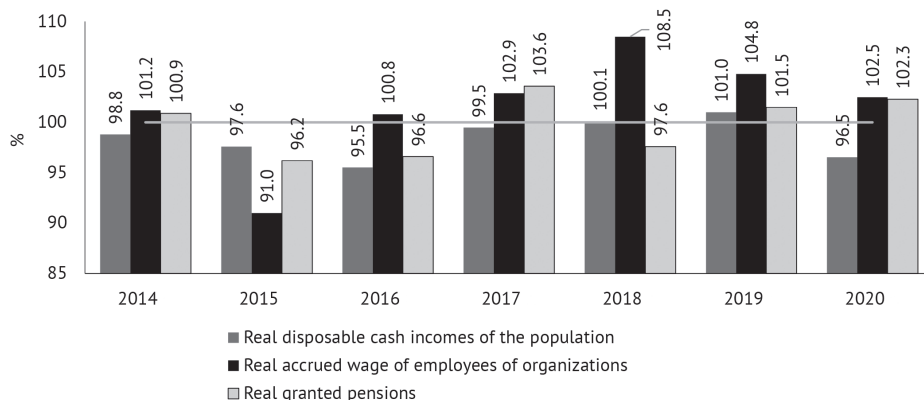


Fig. 1. Dynamic of real disposable cash incomes of the population, real granted pensions in 2014–2020, in % to the previous year

Source: Rosstat.

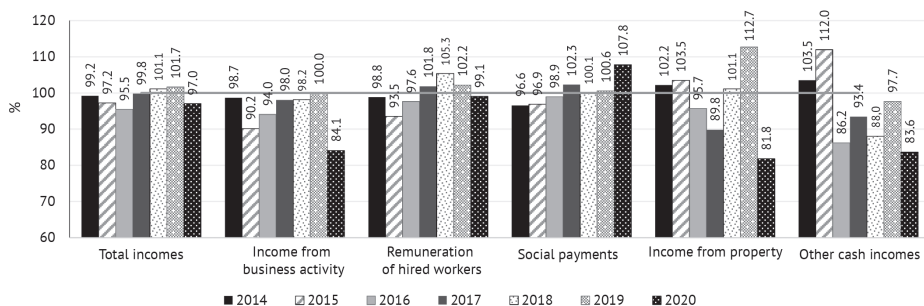


Fig. 2. Dynamic of total cash incomes of the population and its components in real terms in 2014–2020, in % to the previous year

Source: own calculations based on Rosstat data.

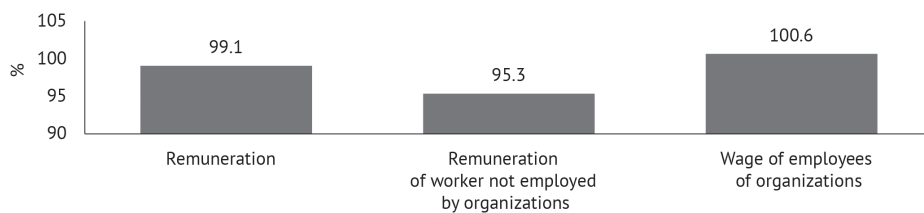


Fig. 3. Dynamic of hired workers' wages in real terms in 2020, in % to the previous year

Source: Rosstat.

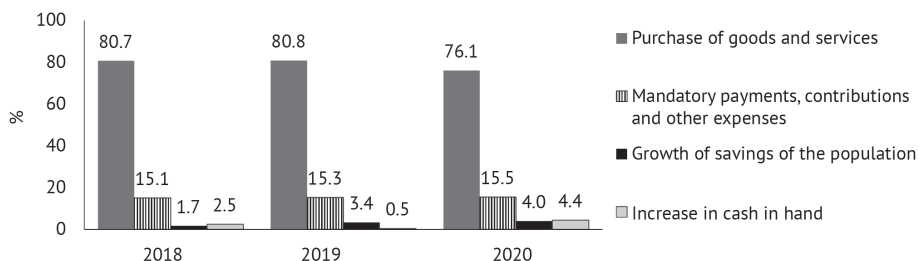


Fig. 4. Share of cash income of the population for purchase of goods and services in 2018–2020, %

Source: Rosstat.

(from 80.8% to 76.1%) (Fig. 4). The rise in the US dollar against the ruble and the increased demand for cash during the self-isolation regime led to the situation where cash in hand went up in 2020 by 3.9 p.p. (from 0.5 to 4.4%) compared to 2019.

5.1.2. Dynamic of the level of subjective and monetary poverty

The proportion of subjectively poor people assessing the material situation of their families as “bad” or “very bad” went up by 1.5 p.p. over 2020 and constituted 27.3% (Fig. 5). Having said that, the share of people who positively assess the material situation of their families constituted 8.0%, which is below the level observed in 2018-2019.

The decline in cash income in real terms led to the poverty rate growth: In January-September 2020, the proportion of the population with cash income below the subsistence level advanced up relative to the same period of 2019 from 13.1 to 13.3% (Fig. 6). Meanwhile, it should be noted that the poverty rate growth during that period was relatively small (to compare: in January-September 2015 during the economic crisis the poverty rate climbed by 1.5 p.p. to the January-September

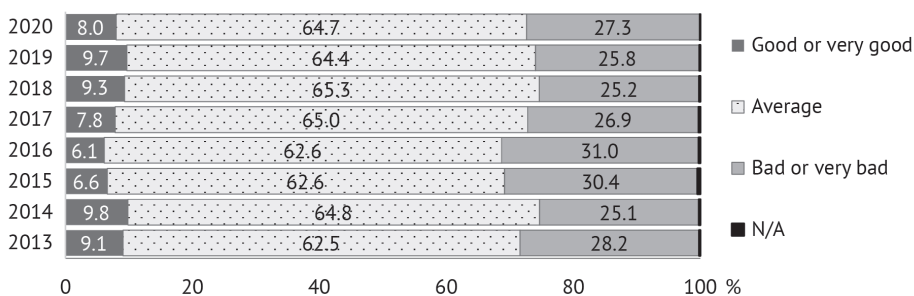
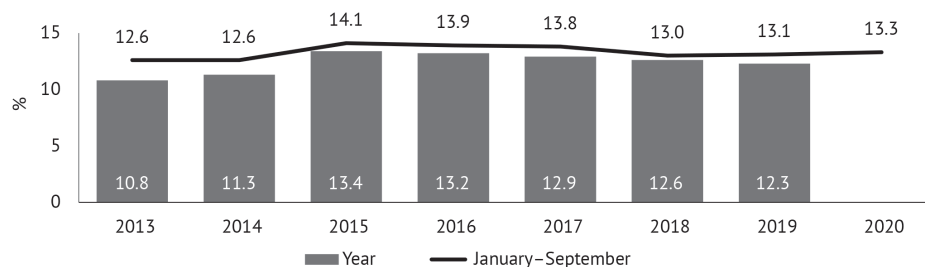


Fig. 5. Opinion of the population on current material situation in 2013–2020, %

Source: Rosstat.



Note. Data for January-September 2013–2017 is calculated according to Rosstat of Russia Methodology dated June 16, 1996 No. 61, other data – according to Rosstat Methodological provisions dated July 2, 2014 No. 465 with amendments dated November 20, 2018.

Fig. 6. Share of population with cash incomes below the subsistence level, %

Source: Rosstat.

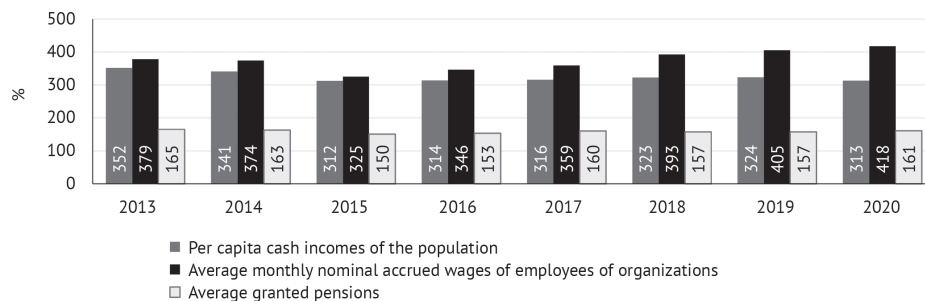


Fig. 7. Ratio of cash incomes of the population, wages and pensions with the subsistence minimum, 2013–2020, %

Sources: Rosstat; The Federal portal of draft normative legal acts: “On Establishment of Subsistence Minimum and Across Principal Socio-demographic Groups of Population as a Whole in the Russian Federation for Q4 2020”

2014 level). Additional social support measures provided to the population in the course of 2020, including to jobless citizens and families with children, played an important role in mitigating the risks of poverty. Social support extended to low-income groups of population (for example, low-income families with children from 3 to 7 years of age, jobless with children) has partially compensated for the fall in their real cash incomes and reduced the risks of poverty.

However, the government failed to fully compensate for the reduction in real incomes of the population: in 2020, average per capita incomes of the population declined against the subsistence minimum for the entire population as a whole from 324% to 313% (*Fig. 7*).

5.1.3. Dynamic of income inequality

Meanwhile, the level of income inequality of the population in 2020 markedly decreased (on the back of mounting share of cash incomes of the less well-off first

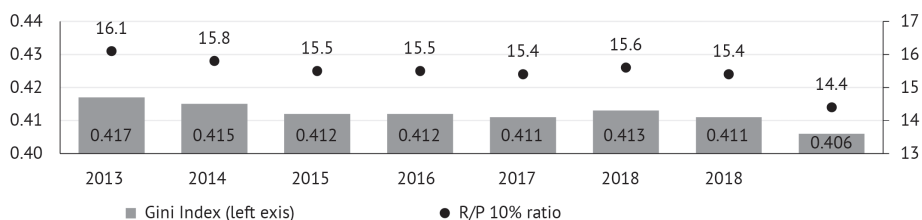


Fig. 8. Gini Index and R/P 10% ratio, 2013–2020

Source: Rosstat.

quintile group and reduction in the share of cash incomes of the most well-off fifth quintile group) and fell below the 2004-2019 level (Fig. 8).

5.2. Retail trade, services and consumer prices

At the beginning of the pandemic in April 2020, on the back of introduction of the stay-at-home regime and suspension of the work of retail nonfood chains, the retail trade statistics in the monthly format¹ showed the maximum downturn (23% on the relevant month of the previous year), including a drop of 35% and 9% in non-food and food sales, respectively. The services sector² saw a more dramatic drop than the retail trade at the start of the pandemic: in April-May 2020 the volume of services to households fell by 38%-39% compared with the corresponding months of 2019. As pandemic restrictions were gradually lifted, pent-up demand realized and in July-October 2020 retail nonfood trade virtually recovered to the previous year level. By the beginning of the autumn, food consumption was 3%-4% short of the relevant indicators of 2019 (August-September). In September, the volume of paid services amounted to 88% year-on-year, but in October the downturn renewed with the new wave of restrictions. In November-December 2020, consumption of goods and services declined as compared with the relative months of the previous year (Fig. 9).

In January-December 2020, the retail trade volume contracted in comparable prices by 4.1% compared with the previous year, including a decrease of 2.6% and 5.2% in food products and nonfood products, respectively. In 2020, consumption of goods and services fell sharper than households' real cash incomes (-3.0% as compared with the year 2019) or real disposable cash incomes (-3.5% year-on-year). The overall volume of paid services to households in comparable prices decreased by 17.1%³. If the year 2016 saw a similar extent of the downturn in consumption of food and nonfood products (Fig. 10), the contraction of the services sector was unprecedented.

1 The "Russia's Socio-Economic Situation" Report / The Rosstat <https://rosstat.gov.ru/compendium/document/50801>

2 Maleva T., Grishina E., Burdyak A., Chumakova Yu. The Epidemiological Crisis in H1 2020: The Socio-Economic Situation of the Population // Russia's Economic Development. 2020. Vol. 27. Issue No.10. pp. 60-72.

3 The "Russia's Socio-Economic Situation" Report. January 2021 / The Rosstat https://gks.ru/bgd/regl/b21_01/Main.htm

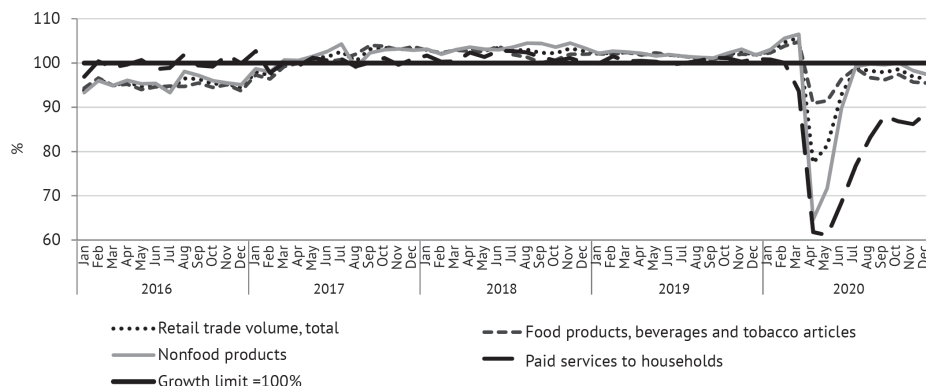


Fig. 9. Monthly dynamic of retail trade volume and consumption of paid services in comparable prices, % change compared with the corresponding month of the previous year

Source: The Rosstat's and the Unified Interdepartmental Statistical Information System's data.

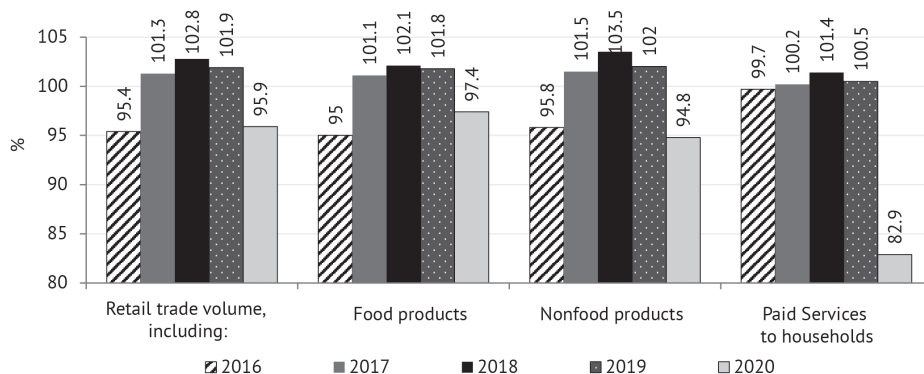


Fig. 10. The retail trade annual volume in comparable prices and the index of physical volume of paid services to households, % change compared with the previous year

Source: The Rosstat.

The volumes of paid services to households rendered by travelling agencies and cultural institutions dropped by more than a half (48% and 47% compared with the level of 2019, respectively). The volume of services decreased by more than one third in physical culture and sports (67.4%), hospitality (64.9%), health resort sector (59.8%) and transportation (60.9%). The pandemic affected less consumer services (85.4%), paid education services (87.4%), medical services (90.5%), legal services (91.2%), telecommunication services (95.0%), housing services (95.2%) and public utility services (96%). At the same time, the consumption of courier

and postal services increased year on year (103.6%). Among consumer services, the year 2020 saw the minimum decrease in consumption of maintenance service and repair of transport vehicles, machinery and equipment (91.5%) and hiring, including carsharing (94.3%). The sad result of the pandemic was growth in consumption of funeral services (103.8% compared with 2019).

How much did the consumption of staple food increase during the stay-at-home regime and remote work and learning in spring 2020? The operational data of retail trade¹ not related to small business entities showed feverish demand (over 40%) for pasta, cereals (buckwheat, rice and other), flour, sugar and vegetable oil in March 2020 (Fig. 11). In April-June, pasta sales returned to the level of the previous year, while sales of cereals and sugar, in particular, remained lower than in 2019 until the end of 2020. The consumption of drinking milk changed insignificantly.

Annual sales of sugar and cereals through mid-sized and large retail trade entities decreased year on year to 89.4% and 96.9% in comparable prices, respectively (January-December 2020 on January-December 2019). The year 2020 saw a pickup in sales of other groups of food products: eggs (28%), fresh potatoes (25%), animal fats, oil, poultry meat, flour and fresh vegetables (22%), cheese

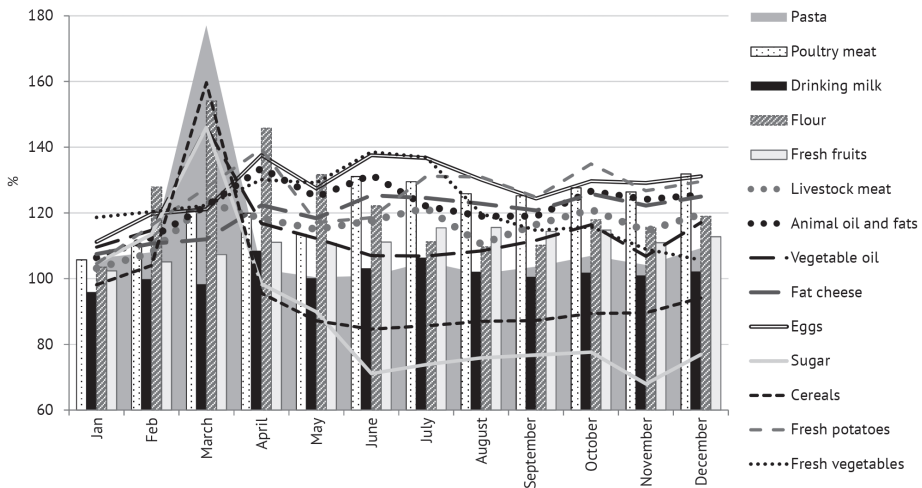


Fig. 11. Large and mid-sized retail trade entities' sales of food products in comparable prices, % change as compared with the corresponding month of the previous year

Source: The Rosstat.

1 Annual indices calculated by means of a linking method on the basis of monthly outturns. Large and mid-sized retail trade entities' staple food sales (operational data) / The Rosstat. URL: <https://rosstat.gov.ru/folder/11188>

(20%), livestock meat (16%), vegetable oil (15%) and fresh fruits (11%). As can be seen from the above, contrary to the overall decrease of 2.6% in the volume of retail trade in food products in the pandemic year 2020, the statistics of large and mid-sized retail outlets point to a substantial pickup in staple food retail sales. This can be substantiated, on one side, by families' shift to eating at home during the lockdown and a reduction of over 50% in public catering volume in April-May. On the other side, under the new conditions prefabricated food and ready meals sales increased; free delivery services from large stores received a boost for development. Consumers sought to minimize the number of their visits to shops by making purchases at large trade centers – this is evidenced by growth in the average receipt amount in April-May as compared with the previous year.¹

The Rosstat calculates the weight matrix² based on the consumption pattern formed in the current year for computing the next year's consumer price index (CPI). This matrix represents a "smoothed", cleared of short-term spikes and sustainable carcass of the consumer spending pattern. The dynamics of its three key components in the past ten years (*Fig. 12*) can be notionally divided into three stages. In 2010–2013, the share of food expenses was declining (from 38.5% to 36.5%) and nonfood consumption was growing (from 35.6% to 37.7%), while the share of expenses on services remained virtually unchanged (25.8% and 25.9%). On the contrary, in 2014–2015 food expenses increased (up to 38%) and the share of nonfood products declined (to 36.5%). In 2015–2019, the share of expenses on services increased (from 25.5% to 27.8%), while food and nonfood expenses declined. In 2020, the consumption pattern changed: the share of expenses

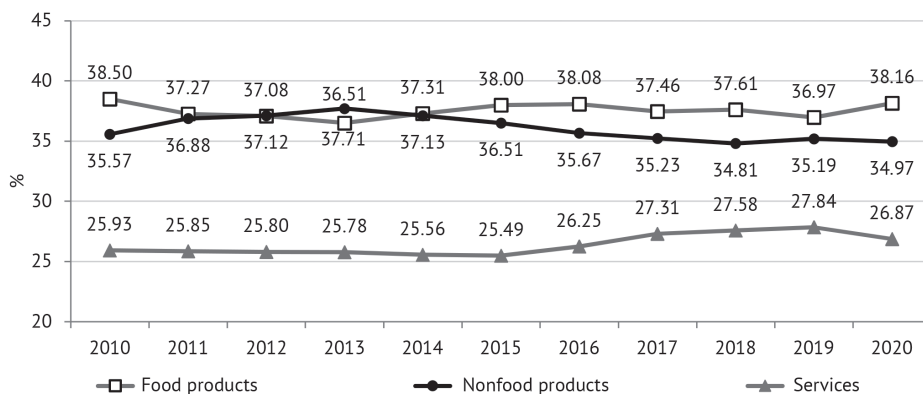


Fig. 12. The pattern of households' consumer spending for computing the next year's consumer price index, %

Source: The Rosstat.

- 1 Average receipt amount was record-high in December. / Romir. 19.01.2021. URL: <https://romir.ru/studies/sredniy-chek-pokazal-rekordnoe-znachenie-v-dekambre>
- 2 Prices. The pattern of households' consumer spending for CPI calculation / The Rosstat <https://rosstat.gov.ru/price>

on services fell almost to the level seen in 2016, while that of food expenses increased considerably.

In “peaceful” non-pandemic time, growth in the share of households’ food expenses would signal a pickup in the rate of poverty as food expenses prevailed in low-income families’ budgets and with the growing number of the poor the share of food expenses increased. However, as per the latest data there is insignificant growth in the poverty headcount: in January-September 2020 it increased by 0.2 p.p. as compared with the relevant period of the previous year.¹

Undoubtedly, a decrease in households’ incomes affected their financial situation. On one side, according to the Public Opinion Foundation’s surveys in April-May 2020 up to 45% of the population tried to save more than before the pandemic. In August-September, the share of those who began to save more because of the pandemic decreased to 36%, while in October-December exceeded again 40%. On the other side, the worsening did not affect all: the pandemic did not change the share of Russian households which had to save or refuse from the earlier planned purchases during the previous year – from February 2019 till December 2020² the share of such families steadily amounted to 75%, give or take 2 p.p. Specifically, 20% of households did not save at all.

As was stated in the review of the previous year³, in Q1 2019 consumer prices received an additional impetus, an increase of 5%-6%, driven by growth in the VAT rate. By the mid-2019, growth rates of prices slowed down to 4%, while in Q1 2020 the consumer price index was equal to 102.3%–102.5% as compared with the corresponding months of the previous year; this can be partially explained by a high base effect and the abovementioned price rises early in 2019. During the first wave of the pandemic in April-May 2020, prices were appreciating at a moderate rate and such a situation prevailed till August: in March-April the consumer price index value relative to the corresponding period of the previous year was in the range of 102.5–103% and in summer the CPI grew from 103.2% in June to 103.7% in September. Prices of food products were appreciating at a somewhat higher rate than nonfood products. From October 2020, prices of goods were appreciating considerably and by December a year-on-year appreciation of food products was equal to 6.7%, including CPI for food products and spirits amounting to 107.2% and 102.8%, respectively, relative to December 2019. The pandemic’s effect on dynamics of consumer prices of services was moderate, 2.5%–3.0% within the entire year (*Fig. 13*).

Based on the results of the pandemic year 2020, the annual index of consumer prices was equal to 4.9%. Prices of food products appreciated by 7.2% (December on December of the previous year), while nonfood products and services, by 4.8%

1 On correlation of households’ cash incomes with the minimum subsistence level and the number of low-income population in general across the Russian Federation in Q3, 2020 / The Rosstat. URL: https://www.gks.ru/bgd/free/B04_03/IssWWW.exe/Stg/d02/12.htm

2 In April-June 2020, no surveys were carried out. Inflation expectations / The RF Central Bank. URL: http://www.cbr.ru/analytics/dkp/inflationary_expectations/

3 The Russian Economy in 2019. Trends and Outlooks. (Issue 41) / [V. Mau, et.al.; edited by Kudrin A.L., Doctor of Economic Sciences, Radygin A.D., Doctor of Economic Sciences and Sinelnikov-Murylev S.G., Doctor of Economic Sciences]; The Gaidar Institute. – Moscow: The Gaidar Institute Publishers, 2020. p. 359.

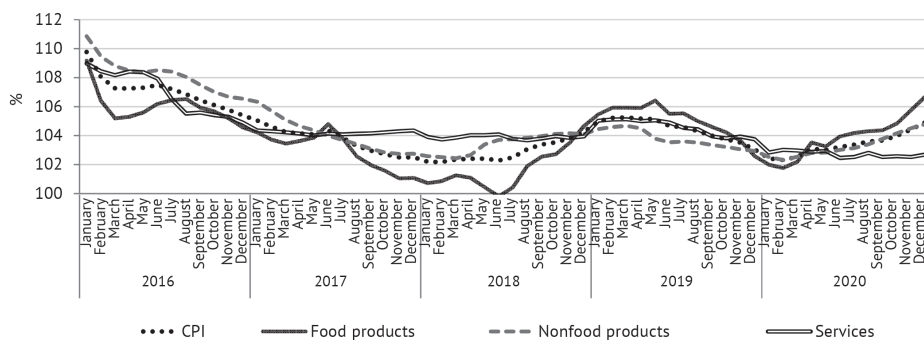


Fig. 13. Monthly dynamic of the consumer price index (CPI), % change compared with the corresponding month of the previous year

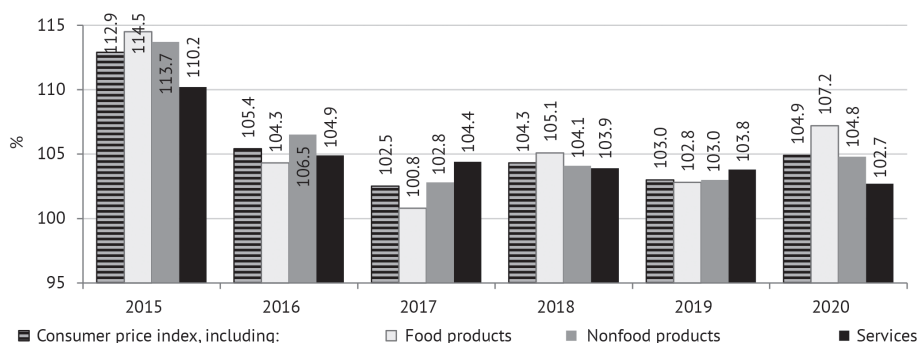


Fig. 14. Consumer price index (at year-end, % change compared with the previous year-end)

and 2.7%, respectively.¹ In 2020, headline inflation was in excess of the indicators seen in 2017-2019, but remained below the level of 2016 though prices of food products appreciated more compared with the specified year, while those of nonfood products, less (Fig. 14).

5.3. Lending and preferential mortgage programs for families with children

As the dynamics of bank deposits and retail lending in 2020 were analyzed in detail in the above section dedicated to the banking sector², here we shall compare households' bank savings and loan debts with households' annual incomes and touch upon the role of preferential mortgage programs. As of January 1, 2021, households' bank loan debt amounted to the record-high value of Rb20,044 trillion

1 The short-term economic outturns - 2021 / The Rosstat. URL: https://gks.ru/bgd/regl/b21_02/Main.htm
2 See Sections 3.3.3. Lending to Individuals and 3.3.4. The Banking Sector's Resources.

(Rb17,651 trillion a year ago). Growth drivers were mortgage loans. In 2020, retail lending grew by 13.5% (January 1, 2021 on January 1, 2020), including car loans (7.9%), consumption loans (8.8%) and mortgage loans (20.7%).¹ In that period, the share of mortgages in the pattern of households' loan portfolio increased from 43.7% to 46.4%, while that of consumption loans declined from 50.6% to 48.4%; the share of car loans decreased from 5.4% to 5.1% of all lending to individuals.

The volume of individuals' funds with banks (as of January 1, 2021) amounted to Rb 34,246 trillion (Rb30,669 trillion a year before), the volume of deposits decreased somewhat from Rb22,878 trillion to Rb21,198 trillion, current account balances increased half as much (from Rb7,533 trillion to Rb11,637 trillion) and escrow account balances grew considerably compared with the previous year (from Rb0,137 trillion to Rb1,173 trillion). So, savings and loans grew more relative to households' cash incomes volume which did not virtually change in nominal terms (in 2020 and 2019 it was equal to Rb62.27 trillion and Rb62.08 trillion, respectively). Based on the results of the pandemic year 2020, households' funds with banks exceeded a half (55%) of households' annual cash income, while individuals' loan debt amounted to one-third of the annual income (32%) (Fig. 15).

Mortgage lending is gaining momentum, particularly owing to a few state programs aimed at supporting borrowers from among the most vulnerable socio-demographic groups, namely, young families and families with children.

(1) The state program of *subsidizing mortgages for families with two and more children*² born in 2018-2022 has been in effect since the beginning of 2018 ("family

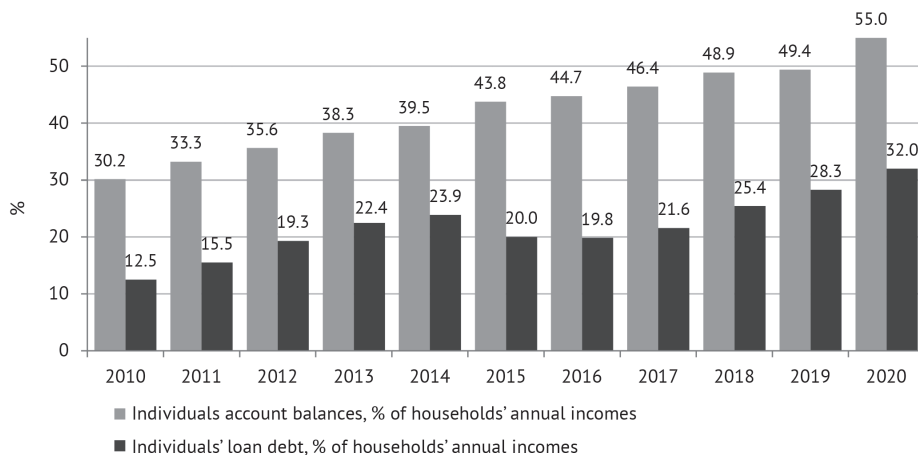


Fig. 15. The correlation of households' loan debt, individuals' account balances and households' annual cash income volume, %

Source: data of the RF Central Bank and the Rosstat, own calculations.

1 On Development of the Banking Sector in the Russian Federation in January 2021. / The RF Central Bank. URL: https://cbr.ru/analytics/bank_sector/develop/
2 RF Government Decree No.1711 of December 30, 2017

mortgage”). The interest rate is set at the level of 6% per annum, however, at present banks (DOM.RF, the Sberbank and the VTB) grant such loans at the rate below 5%.¹

During the term of the program (February 2018 – December 2020), 129,400 such loans for the overall sum of Rb344.3 bn were granted, including Rb214.9 bn worth of 78,800 loans extended in January-December 2020. It is noteworthy that 55% of program participants took new loans, while 45% of the borrowers refinanced the earlier received mortgage loans on preferential terms. Generally, family mortgages were granted to families in the event of birth of the second child (77.3%) (Fig. 16).

(2) *Support of large families.* Federal Law No.157-FZ of July 3, 2019 envisages the right of mortgage borrowers-individuals in the event of birth of their third or subsequent child in the period from January 1, 2019 till December 31, 2022 to receive state support in the amount of maximum Rb450,000 for complete or partial repayment of mortgage (loan) debt. As of October 11, 2020, over 85,000 families received payments from the beginning of the program to write off a mortgage debt on grounds of the birth of their third or subsequent child. As of November 23, 2020, Rb43 bn worth of payments under the mortgage co-financing state program for large families were approved for over 97,000 families.

(3) *The “Far Eastern Mortgage” program for young families*² (spouses under the age of 35 or a single parent with a child) provides for a mortgage loan at the interest rate of 2% per annum to be issued in the period from December 1, 2019 till December 31, 2024 for the entire loan term in case of buying or building housing in the Far Eastern Federal Okrug (FEFO). Also, the buying of housing on the secondary market from individuals (only rural settlements in the FEFO)

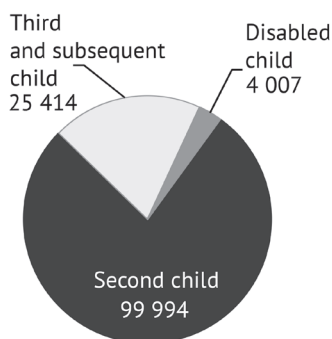


Fig. 16. The number of born children and their sequence in families which received a “family mortgage” from February 2018 till December 2020, persons

Source: The RF Central Bank and the Rosstat.

1 State support measures make it feasible for families with children to save over Rb2 mn when they take mortgage loans to buy housing. URL: / Дом.рф <https://дом.рф/upload/iblock/9b0/9b08afd2dbf2f8fcd87612296bab5f48.pdf>

2 In accordance with RF Government Decree No.1609 of December 07, 2019, the effective term of the program: 2019–2024; program operator – DOM.RF.

is admissible. As the program operator, the AO “DOM.RF” joint-stock company reimburses to creditors the shortfall in income up to “the key rate + 4 p.p.” It is noteworthy that 12,700 such loans worth Rb45.8 bn were extended in January-December 2020.¹

(4) Late in 2019, the terms and conditions of the “rural mortgage” program² (2020-2025) were approved within the framework of the “rural territories comprehensive development” state program aimed at upgrading housing conditions for 201,000 families living in rural areas by means of issuing mortgage loans at the interest rate of 0.1%–3%. The “rural mortgage” program provides for loans to be granted for buying apartments, which are either already built or under construction, and ready built houses with a land plot, as well as loans at the interest rate of maximum 3% (the rate can be reduced to 0.1% by means of regional budget subsidies) for building a house under owner-contractor agreement. Specifically, under this program mortgage loans are granted for buying and building housing only in rural areas (metropolitan areas), including small cities with the population of maximum 30,000 people (the Moscow Region is excluded from the program).

(5) *Maternal capital*. For 13 years the maternal capital program has supported nearly 10.6 mn Russian families and proved itself as an effective state support instrument for families with children.³ Over 8 mn families used their maternal capital, including 7 mn families (84%) which spent it on improving their housing conditions. Also, in 2020 the coverage of the program was expanded and families with the first child born from January 1 became eligible for maternal capital. Further, the program was extended till the end of 2026.

The maternal capital size has increased 2.5-fold since 2007. In 2007 it was equal to Rb250,000, while in 2020 parents of the second and subsequent child were entitled to receive Rb616,600. In 2020, maternal capital for the first child was equal to Rb466,600 and if the second child is born in such families, they will receive additionally Rb150,000.

5.4. Labor market dynamics

In 2020, the Russian labor market experienced significant changes caused by the coronavirus pandemic and deteriorating economic situation in the country. In April, after the introduction of lockdown the unemployment rate calculated according to the ILO methodology, increased from 4.7% to 5.8% and then continued to grow up to 6.4% in August (*Fig. 17*). By the end of the year, even in the context of the second wave of pandemic the situation had generally stabilized and the unemployment rate dropped to 5.9%. The remarkable thing is that such dynamics of this indicator with a peak in mid-late summer is generally similar to that observed in developed countries, a significant increase in the number

1 The data on the implementation of the “Far Eastern Mortgage” program / DOM.RF. URL: <https://дом.рф/mortgage/dalnevostochnaya-ipoteka/>

2 RF Government Decree No.1567 of November 30, 2019

3 Maternal Capital: How the Main Instrument of the “Demography” National Project Works/ November 13, 2020. The Future of Russia. National Projects. URL: <https://futurerussia.gov.ru/nacionalnye-proekty/matkapital-kak-rabotaet-odin-iz-glavnyh-instrumentov-nacproekta-demografija>

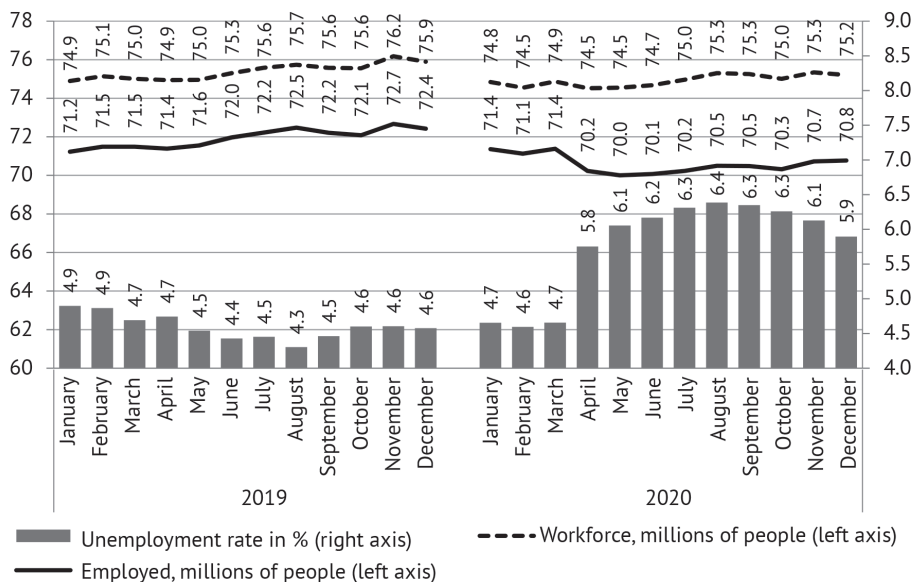


Fig. 17. Workforce, the employed and unemployment rate in 2019–2020

Source: Rosstat

of unemployed in the first months of pandemic took place only in the United States and Canada, which is more likely due to the peculiarities of accounting for unemployed in these countries.¹

Workforce declined in 2020 by 0.5 million people. This is partly due to the continuing decline in the working-age population. As a result of the unfavorable demographic situation, the size of workforce for the period 2015–2019 decreased by 1.4 million people. Withdrawal from the labor market of the population failing to find a job in the face of declining employment could be another factor contributing to such dynamics in 2020. The size of potential workforce, i.e. those willing to work but not trying to find it, increased in Q 2 2020 by a third, however it returned to the pre-crisis level already by Q 3. Thus, the contribution of this factor was rather limited.

The persistence of a high level of unemployment is primarily due to redundancy, layoffs, liquidation of an enterprise, and own business. The number of unemployed identifying these facts as the main reason for unemployment, doubled in Q 3 2020 compared to the respective period of the previous year (Fig. 18). Notwithstanding a significant increase in the overall structure of the unemployed, this reason for unemployment remains not the most “popular” as only every fifth unemployed named it as the main reason. The number of those dismissed at their own request

1 Unlike other countries using the standard ILO methodology for defining the unemployed, the USA and Canada also include even those who de jure remain employed, but do not actually work for economic reasons.

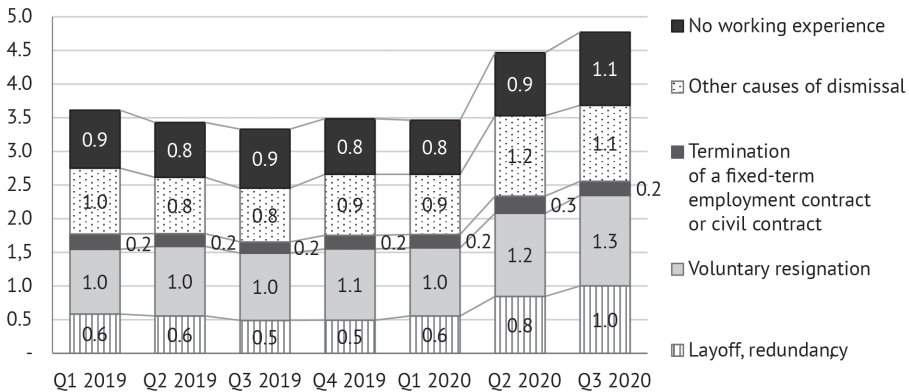


Fig. 18. The unemployed due to unemployment, millions of people

Source: Results of a Sample Labor Force Survey / Rosstat. Bulletin for Q 3 2020.

increased less significantly, i.e. by 34%. However, it is evident that the main reason for voluntary dismissal during a crisis was forcing the employees to leave either by the employer or for reasons beyond the employer's control.

Importantly, the number of unemployed with no work experience rose by only 24%, which is lower than for other reasons of unemployment. Thus, it can be argued that in the summer months, despite the obvious increase in youth unemployment caused by the influx of these age groups into the weakened labor market, this age group cannot be ranked among the most affected by the coronavirus crisis.

It should be noted that the increase in the number of unemployed in Q 2 2020 was heterogeneous: people with a higher level of education were affected to a greater extent.

Thus, the number of unemployed with a higher education increased by 50% in Q 2 vs Q 1, while the number of those with a secondary vocational education grew by 30-34%, and with a secondary general education (10-11 school years) by 15%, basic general education (8-9 school years) by 6%. The number of unemployed women grew faster than unemployed men (33% vs 26%). Almost half of the new unemployed had their last job in one of three industries: wholesale and retail trade (27.3% of all new unemployed), hotel and restaurant business (11.0%), construction (10.9%).

Note that large and medium-sized organizations primarily responded to the crisis by decreasing the rate of hiring rather than through redundancies and layoffs of employees. The number of dismissed employees in Q 2 increased by only 5% compared to Q 1, while the extent of hiring reduced by 32%. Thus, the flows in the labor market stopped balancing each other. In the spring and summer, the influx of new unemployed was not compensated by hiring of those already looking for a job.

The number of unemployed registered with employment agencies grew in 2020 at an unprecedented rate. From 0.7 million in March, it increased to 3.7 million at

the end of September. Thus, the increase in the number of unemployed registered with the state employment agencies significantly exceeded the total inflow of the unemployed according to the ILO methodology. According to experts of the Center for Advanced Management Solutions based on the data of employment agencies, such an inflow of applications in March-June 2020 was determined by only one third of those dismissed during the crisis from corporate sector, while two-thirds referred to those who have lost their jobs earlier or worked informally or did not work at all.¹ Thus, the massive influx arose not only due to deteriorating economic situation, but also as a result of new measures aimed to supporting the unemployed, i.e. simplifying access to benefits, increasing their minimum and maximum amounts.

The fact that the brunt of the crisis fell on small businesses, including individual entrepreneurs and self-employed, is evidenced by statistics relevant to the informal sector in Russia. In April, the number of people employed in the informal sector decreased by 10.8% (1.6 million people) compared to March, however, by September the employment in this sector had practically returned to pre-crisis values.

The crisis in the labor market in the first months of last year was most reflected in working hours. In April, one in four workers sampled in the labor force survey was absent from work. The total number of man-hours worked fell from 10.9 bn to 8.0 bn. This is largely due to the period of non-working days, which lasted from March 30 to May 11.

Nevertheless, despite the announcement of non-working days, a large proportion of workers continued to work, including groups not subject to this ban (for example, those working in medical and pharmacy organizations, industries of continuous production, providing essential goods to population, etc.). By early fall, the length of hours worked and the number of those temporarily absent from work returned to the pre-crisis level (*Fig. 19*).

However, the dynamics of wages was not so sharp. In April 2020, the decline in real wages was only 2% compared to April 2019, and growth resumed in May, albeit at a slower pace than in Q1 2020 / (*Fig. 20*). On the whole, the year average salary of employees working for organizations amounted to Rub 51.083, that is higher in real terms by 2.5% compared to the previous year.

The data of the Federal Tax Service (FTS) also indicate that the level of the wages fund has been secured in the context of a deteriorating economic situation: thus, in January-October 2020, personal income tax receipts increased by 4.3% compared to the respective period of 2019. At the same time, the level of receipts from most other taxes decreased.

This dynamics strongly differs from 2015 when the drop in actual wages reached 9–10%. Differences can be attributed to several reasons. First, the informal sector is practically excluded from the Rosstat observations, which due to specifics of the current epidemiological crisis could have been affected much more severely than the corporate one. Second, in 2020, the crisis practically did

¹ URL: <https://econs.online/articles/ekonomika/novye-bezrabortnye-za-posobiem-v-koronakrizis/>

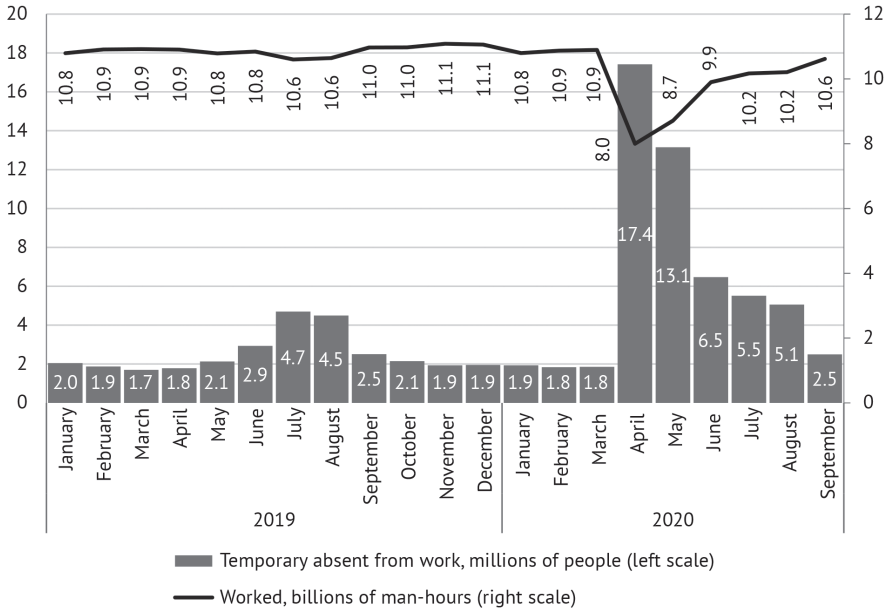


Fig. 19. Dynamics of working hours in 2019–2020

Source: Results of a Sample Labor Force Survey / Rosstat. Bulletin for Q 3 2020

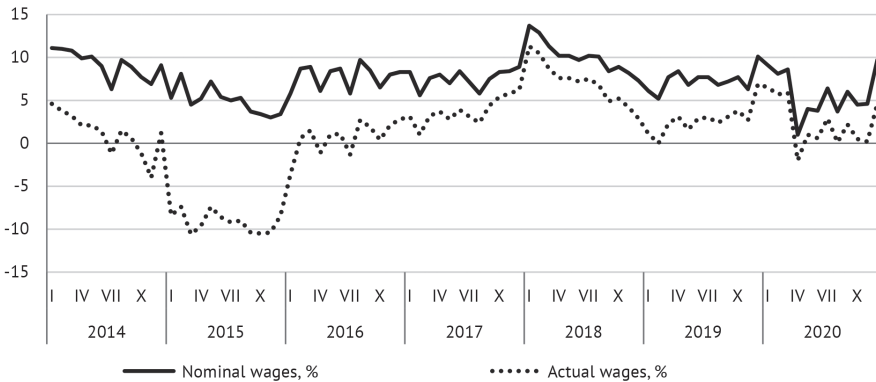


Fig. 20. Growth in nominal and actual wages compared to the respective indicator of the previous year, %

Source: Rosstat

not result in a surge of inflation having kept actual wages from a worse off drop.¹ Indicators of nominal wages are less volatile than actual ones. The stabilization

1 Inflation accelerated only by the end of the year when situation at the labor market has already been stabilized.

of wages in nominal terms was the usual strategy of the Russian labor market during periods of crises resulting in a decrease in their purchasing value under a sharp rise in inflation.

Main drivers of the wage growth in 2020 were courier and postal activities (an increase of 16.8% in nominal terms compared to 2019), healthcare (14.5%), mining of metal ores (13.2%), information and communication (9.6%). A decrease in wages in nominal terms was observed in the following industries: air and space transport (10.0%), hotel and restaurant business (5.9%), coal mining (1.6%), printing (1.1%), furniture manufacturing (0.5%), sports, recreation and entertainment (0.5%).

The growing popularity of telecommuting in the corporate sector can be the most critical long-term impact of the coronavirus crisis. According to Anton Kotyakov, the Minister of Labor and Social Protection of the Russian Federation, the share of those employed remotely at the peak of the crisis was 11%, and by the beginning of 2021 it reduced to 6%¹. Such an estimate obtained from the operational monitoring of the labor market is based on the statistical reports of large and medium-sized organizations. However, many organizations transferred workers to work from home without formalizing the appropriate documents, thus, the data may be underestimated.

Data received from representative telephone interviews conducted by INSAP RANEPa in May, September and December 2020, showed a significantly higher proportion of employees working remotely: 28% in May and 23% in September and December. Moreover, only half of them worked remotely on a routine basis, while the other half combined this working mode with the office duties.

Thus, the coronavirus crisis had a significant impact on the Russian labor market in 2020. In many ways, this crisis was not similar to the previous ones: the peak fell in the first months (April – May) followed by a slow recovery. However, the crisis in these first months was localized in a number of the most affected industries, primarily in large metropolitan areas. Hence, employers basically responded with announcement of downtime, significant reductions in hours of work as well as redundancies in staff. By early fall, the labor market evidenced some improvements, hiring rates increased, unemployment began to decline and wages rose. Nevertheless, in a number of industries (air transport, hotel and restaurant business, entertainment and leisure), the situation remained tense by the end of the year.

5.5. Migration processes

5.5.1. Long-term migration

The COVID-19 pandemic and the related restrictions affected considerably the indicators of international migration to Russia in 2020. The number of migrants who arrived in Russia within a year decreased by 102,300 persons while that of migrants who left increased by 77,100. As a result, migration gain fell to the decade's new low of the mere 106,500 persons (the previous one was registered in 2018 and related to the disruption of interdepartmental networking in statistical

¹ URL: <https://mintrud.gov.ru/employment/72>

data provision). If migration readjustments based on the outputs of the 2010 All-Russian census survey are not taken into account, migration gain is the record-low in the past twenty years.

Before the restrictions were introduced, in Q1 2020 the number of those who arrived decreased, but the most dramatic drop took place in April-May (*Table 1*), when not only borders, but also agencies registering migrants closed down. During the year, the number of departures was larger as compared with the previous year because the existing system of registration of migrants automatically regards as left those migrants who got registered in 2019, 2018 and earlier and whose term of registration at the place of stay expired in 2020. As the number of those who arrived decreased in 2020, the number of those who left Russia will be definitely smaller for this reason in 2021.

Table 1

International migration in 2020, monthly data

	Arrived		Left		Migration gain (loss), thousand persons
	Thousand persons	% change compared with last year's indicator	Thousand persons	% change compared with last year's indicator	
January-March	152.6	93.9	106.8	120.4	45.8
April	30.8	54.8	37.2	116.5	-6.4
May	38.9	73.9	39.8	113.4	-0.9
June	50.3	96.0	39.9	117.9	10.4
July	55.0	101.7	38.6	112.7	16.4
August	52.5	99.6	48.6	121.7	3.8
September	53.4	88.3	40.8	120.3	12.5
October	49.8	76.5	45.4	127.5	4.4
November	47.9	68.2	42.9	128.1	5.0
December	63.0	89.7	47.7	108.9	15.3
2020, total	594.1	85.3	487.6	118.8	106.5

Source: The Information on Russia's Socio-Economic Situation, the Bulletins for 2020–2021.

The record-low migration gain failed to make up for the natural population decline which intensified sharply in 2020; at year end migration compensated only 15.5% of the losses from the excess of deaths over births. In October-December 2020, the compensation was equal just to over 8% (*Fig. 21*). In 2016–2017, with the natural population decline renewed, migration compensated completely those losses, thus facilitating population growth, while in 2018-2019, it made up for 77%.

It is believed that as soon as the acute phase of the COVID-19 pandemic is over, the migration gain will increase owing particularly to delayed arrivals because of the lockdown and closed borders. But it is difficult to say whether it happens as early as 2021 or later. At the same time, Russia's overall downturn migration trend observed since the second half of the 2010s is not expected to be replaced by sustainable growth in the influx of long-term migrants.

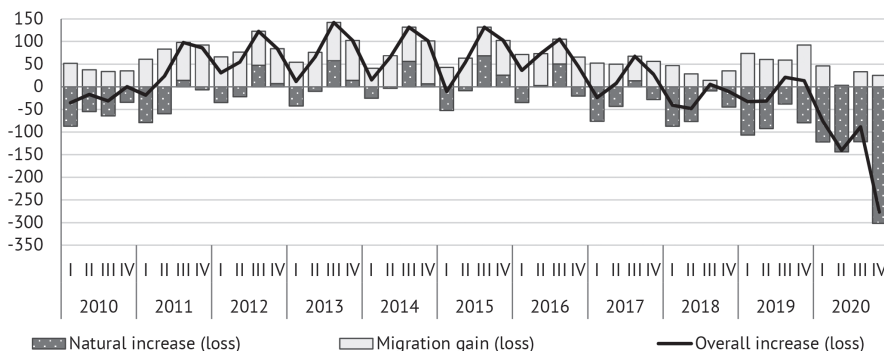


Fig. 21. The components of change in Russia's population size, 2010–2020, quarterly data, thousand persons

Source: The Information on Russia's Socio-Economic Situation, the Bulletins for 2010–2021.

The internal migration in Russia started to decline as far back as 2019 and continued throughout the entire year. For the first time since 2011, the number of the new registrations issued at the place of stay was sustainably lower than that of expired registrations. As a result, in 2019 the number of in-country transfers decreased by 6.9%. In Q1 2020, the decline continued and amounted to 7.8% as compared with the previous year (*Fig. 22*). In Q2 2020, during the lockdown, travelling restrictions and shutdown of agencies carrying out registration of Russian citizens the number of in-country transfers as measured by the statistics fell by 32.3%. In H2 2020, the number of in-country transfers started to recover, but was still lower than in 2019. Based on the results of 2019, the extent of internal migration decreased by 12.9% (18.8% as compared with 2018).

Such a dramatic and extensive decrease in in-country transfers was primarily related to the restrictions introduced late in March 2020 and, probably, entities'

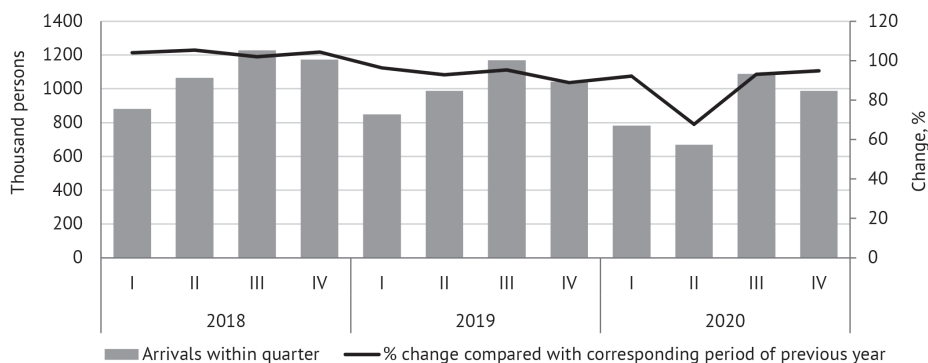


Fig. 22. Internal migration in Russia, 2018–2020, quarterly data

Source: The Information on Russia's Socio-Economic Situation, the Bulletins for 2017–2021.

shift (complete or partial) to remote work. Apart from a downturn in migration activity, substantial changes took place in the redistribution of the population between the country's regions. At year-end, a portion of constant centers of attraction of migrants, such as Moscow and St. Petersburg saw the minimum migration increase (a migration loss was registered up to November); migration increase fell considerably in the Moscow Region. We believe that after the pandemic is over the customary destinations for migration in Russia will revive, but it is not clear yet how soon it will happen.

5.5.2. Temporary migration

The trend of gradual growth in the number of foreigners in Russia in 2019 continued in the beginning of 2020. In winter months early in 2020, 10.3 mn -10.4 mn foreign nationals were staying in the Russian Federation (9.5 mn -9.7 mn foreign nationals in the same period of 2019). However, the coronavirus pandemic which started in March and the subsequent closure of borders for entry and departure of foreign nationals radically distorted the customary path of the migration curve: if in 2019 the number of foreign nationals late in summer - early in autumn used to go up to 11.2 mn persons, in 2020 it was steadily declining. As a result, late in 2020 the indicator decreased by one third, that is, only 7.1 mn foreign nationals were staying in the Russian Federation, the past decade's record-low index.

As before, CIS nationals accounted for a larger share of foreigners who arrived in Russia (84%). Early in winter their number was equal to 6.2 mn persons (*Table 2*), while late in December 2020, to 6.0 mn (8.23 mn persons as of the end of 2019). The leaders are still Uzbekistan, Tajikistan and Ukraine.

Table 2

The number of foreign nationals from the CIS in Russia as of the specified date, persons

	04.12.14	01.12.15	01.12.16	01.12.17	01.12.18	01.12.19	01.12.20
Azerbaijan	598646	531080	542588	601704	667513	758377	548389
Armenia	499084	490156	489005	494848	488614	483250	339985
Belarus	506759	644598	737791	689534	658188	690854	628134
Kazakhstan	581516	671751	599825	531865	539092	547398	365632
Kirgizia	554808	541855	587693	624756	678743	746477	599294
Moldova	586069	512637	495084	425269	357229	310679	205747
Tajikistan	1052822	898849	917908	988771	1105362	1243080	1012186
Uzbekistan	2275290	1884110	1585769	1719492	1888810	2007895	1460120
Ukraine	2476199	2598303	2564356	2129446	1952374	1708652	1037016
CIS, total	9131193	8773339	8520019	8205685	8335925	8496662	6196503

Source: The RF Federal Migration Service, the Main Directorate for Migration of the RF Ministry of Internal Affairs, the Central Database on Accounting Foreign Citizens (CBD UIG).

As compared with 2019, the number of CIS nationals decreased in Russia. Specifically, as per the year-end data the maximum reduction in migrants concerned Ukraine (over 40%), as well as Moldova and Kazakhstan (33%–36%). The number of migrants from Azerbaijan, Armenia and Uzbekistan decreased by 31%–27%. Kirgizia, Tajikistan and Belarus saw the minimum decrease in the migration flow to Russia (20%, 16% and 9%, respectively).

The closure of international borders affected arrivals of citizens of western countries: their number decreased on average by 20% as compared with 2019 (*Table 3*). However, there are two exceptions: the number of US and UK nationals increased slightly. As regards European countries in general, the largest reduction concerned the number of migrant students (nearly 60% compared with 2019) and business travelers (43%–45%), while the minimum one, the number of hired workers (на 19%), as well as tourists and private persons (18% and 17%, respectively).

Table 3

The number of foreign nationals from some EU countries and the US in Russia as of the specified date, persons

	04.12.14	01.12.15	01.12.16	01.12.17	01.12.18	01.12.19	01.12.2020
EU in general	843824	484 981	498 774	437 189	426 331	700325	551964
Germany	242978	112 053	109 507	105 524	102 093	150914	122565
Spain	45860	14 960	14 820	14 109	15 721	31239	22139
Italy	54097	29 004	26 865	24 092	24 957	43989	34787
UK	111093	29 225	28 053	23 616	21 356	30297	31853
Finland	76091	76 220	96 574	73 500	58 805	87635	66983
France	53487	34 161	27 165	26 071	28 772	54997	47510
US	142016	47 355	50 365	43 875	46 120	59509	63296

Source: the data of the RF Federal Migration Service and the Main Directorate for Migration of the RF Ministry of Internal Affairs.

5.5.3. Labor migration

As of the end of 2020, 2.97 mn labor migrants, including 2.87 mn CIS citizens and 99,000 citizens from far abroad, who specified the purpose of their visit in the immigration form as “work on hire” (3.9 mn as of the end of 2019) were staying in Russia. As compared with the end of 2019, labor migration decreased by 25%. Specifically, labor migration from Ukraine and Moldova decreased the most (44% and 33%, respectively), while from Tajikistan and Kirgizia, the least (14% and 20%, respectively); labor migration from Uzbekistan declined by 27%.

As of the end of 2020, of all labor migrants arriving in Russia 1.21 mn persons had valid employment documents (patents or work permits); in addition about 850,000 migrants were citizens of the EEU member-states and had the right to work without a permit. So, as of the end of 2020, about 2.1 mn migrants or 69% of foreign labor migrants could be legalized on the Russian labor market (in case of the employer’s willingness). This is slightly above the index of the previous year

when the share of such migrants was equal to 67% as of the same date, which means that there was no mass-scale withdrawal “into the shadows.” As regards employers, in 2020 the number of notices they sent to the RF Ministry of Internal Affairs on entering into contracts with all categories of labor migrants (migrants with patents, work permits and from the EEU member-states) decreased by 30% as compared with the precious year, which is somewhat higher than the reduction in the number of labor migrants.

The number of the newly executed work permit documents keeps declining (Table 4), which is largely substantiated by a lack of influx of new labor migrants. Within 12 months of 2020, they executed 36% less patents and permits than in the relevant period of 2019.

Table 4

Execution of work permits for migrants in the RF, persons

		2014	2015	2016	2017	2018	2019	2020
Work permit for foreign citizens (FC)*		1334899	177175	133215	139595	120666	117452	58475
Including:	Work permits for skilled professionals (SP)*	158644	22099	14775	17333	19360	16877	7286
	Work permits for highly-skilled professionals (HSP)	34225	41829	25469	21363	25845	31754	18937
Patents**		2379374	1779796	1492203	1658119	1649121	1686418	1101832
Total		3714273	1956971	1625418	1797714	1769787	1803870	1160307

* – from January 1, 2015 work permits are issued only to FC from countries the Russian Federation maintains a visa regime with.

** – from January 1, 2015 work permits are issued to FC from visa-free countries for employment with individuals and legal entities.

Source: the data of the RF Federal Migration Service and the Main Directorate for Migration of the RF Ministry of Internal Affairs.

Despite a decrease in the number of labor migrants and labor market problems particularly in spring, labor migrants keep replenishing substantially regional budgets: in 2020 advance payments for patents amounted to Rb47.5 bn (Rb60.4 bn in 2019). The main payers remained the same: in 2020 migrants from Uzbekistan and Tajikistan were issued 92% of all patents; migrants from Ukraine and Moldova accounted for less than 4% and 2% of all executed patents.

In 2020, the reduction in labor migration was expected owing to the coronavirus restrictions introduced to fight the spread of the epidemic. As soon as these restrictions are lifted, labor migration to Russia is expected to recover. However, such a long pause in work in Russia for labor migrants who can find alternative work destinations (primarily for migrants from Ukraine and Moldova) may affect considerably their number in Russia in subsequent years. In the short-term, Russia can rely only on labor migrants from Central Asian countries.

5.6. Demographic situation

In 2020, natural decline in the Russian population reached 688.700 (this is 2.2 higher than in 2019). The peak of natural decline in 2020 was observed in December: 113.800 people (Fig. 23). Maximum death toll since the beginning of the year was also registered in December: 243.200. The number of registered births in December was 129.400. In January-December, the number of births was 48.700 people less, and there were 323.800 more deaths compared to the same period of the previous year. Both these factors resulted in acceleration of natural population decline, however, the impact of an increase in mortality due to a challenging epidemiological situation was much higher. At the same time, the increase in the number of deaths is albeit acute but temporary, while the negative dynamics in the number of births is a long-term trend.

Natural population decline in 2020 was the highest in the last 14 years. It is comparable to 2006 (then it amounted to 687.000) (Fig. 24).

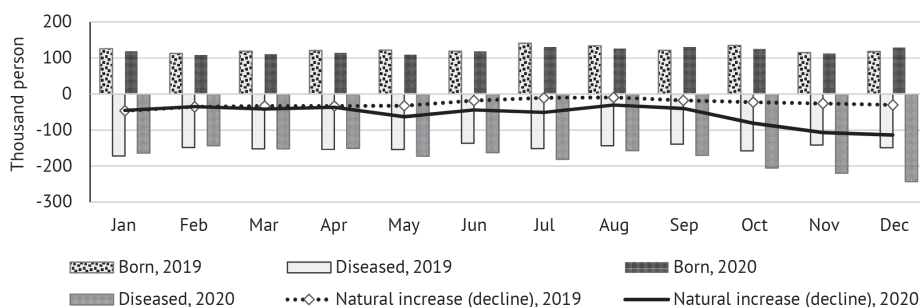


Fig. 23. The number of births, deaths and natural increase (decline), January-December 2019-2020, 1000 people

Source: UISIS, Rosstat operating data.

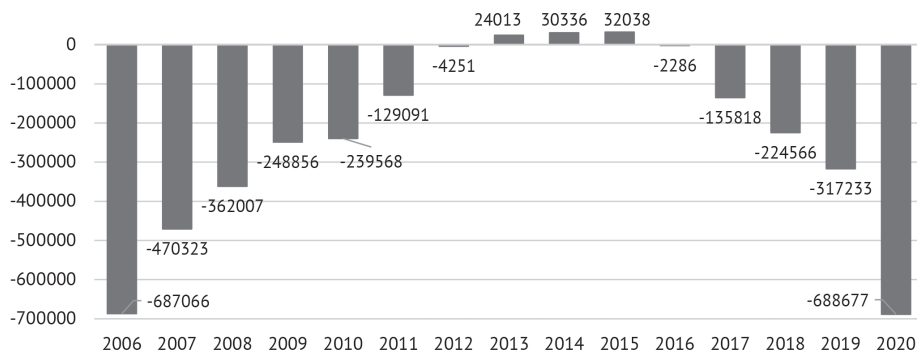


Fig. 24. Natural increase (decline) in population, 2006–2020, number of people

Source: UISIS, Rosstat operating data.

From January to December 2020, 1 435.800 children were born in Russia compared to 1 484.500 a year earlier (decline constituted 3%). In September and December 2020, a light increase of births was observed compared to 2019. In December, the increase of births evidenced 10.700.

The number of births has been declining in Russia since 2016; from year to year, the rate of decline either slightly increases or decreases (*Fig. 25*). Even after recovery of positive dynamics in the death toll, the negative births trend will be strong in the coming years, leading to maintenance of natural population decline in the medium term. Moreover, a delayed effect of the pandemic is expected in 2021, whereby the “time-out” in pregnancies in 2020 will result in a drop in the number of births in 2021. There is no saying how deep this drop will be and how long it will last, however, the intensity of the autumn wave of pandemic does not leave room for optimistic forecasts. Most likely, 2021 will show a very negative picture in fertility.

In 2020, the total fertility rate is expected to be 1.5 children per woman, same as in 2019. The main factor in the observed decline in the number of births is the unfavorable age structure of the population. A small generation born in the 1990s is at the peak of reproductive ages. They will determine the birth rate in the next decade, and the number of births will be invariably lower in contrast with the situation when it was determined by the large generation of the 1980s. An additional factor is the actual reproductive behavior of young women. It is very likely that the generation of the 1990s will give birth to their first child later than the previous generation, and it is nevertheless probable that they will have slightly fewer children on average than the previous generation. Finally, as mentioned above, short-term, namely, social and economic consequences of the coronavirus pandemic will soon be added to these fundamental factors. In 2020, the pandemic has not yet had a full impact on fertility.

In 2020, there was a decrease in the birth rate index (BRI) in 67 subjects of the Russian Federation compared to 2019. The largest increase in BRI is evidenced by

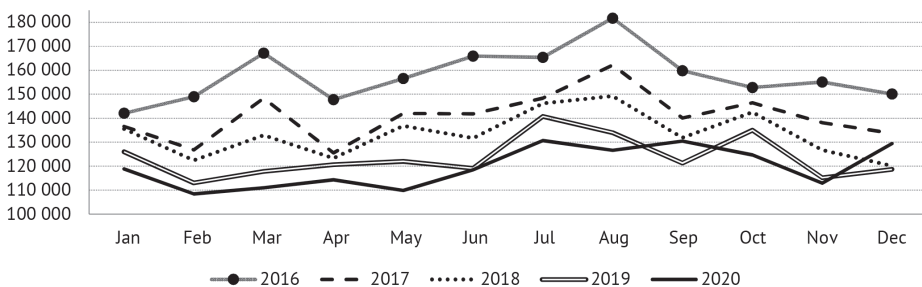


Fig. 25. Number of births, January-December, 2016–2020, people

Source: UISIS, Rosstat operating data.

the Moscow Region (by 6.2%). This is a compensatory effect associated with the administrative redistribution of births between Moscow and the region.¹ Moscow shows the largest decrease in BRI by 9.3% in the same period. Traditionally, a large decrease in BRI is observed in the central regions of Russia (Vladimir, Smolensk, Tver regions). An increase in BRI is demonstrated by the Chechen (5.2%) and Kabardino-Balkarian (6.1%) Republics.

It is also worth noting that in 2020 the All-Russian Population Census was to take place, however, this was not the case. By the end of the intercensal period, the deviations in estimates from the census grow and will be further adjusted. This may further provide an adjustment to the total and cumulative fertility rates at the regional level.

In December 2020, the number of deaths reached 243.200. This is the highest monthly indicator for at least the last 5 years (*Fig. 26*). Seasonal fluctuations in the

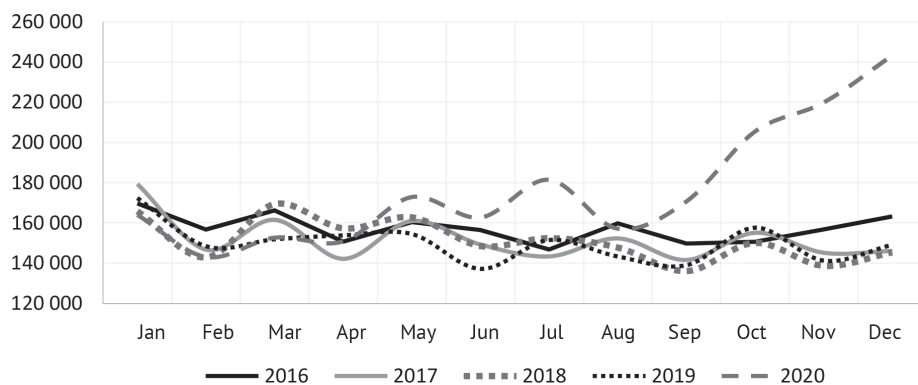


Fig. 26. – Number of deaths, January-December 2016–2020, people

Source: UISIS, Rosstat operating data.

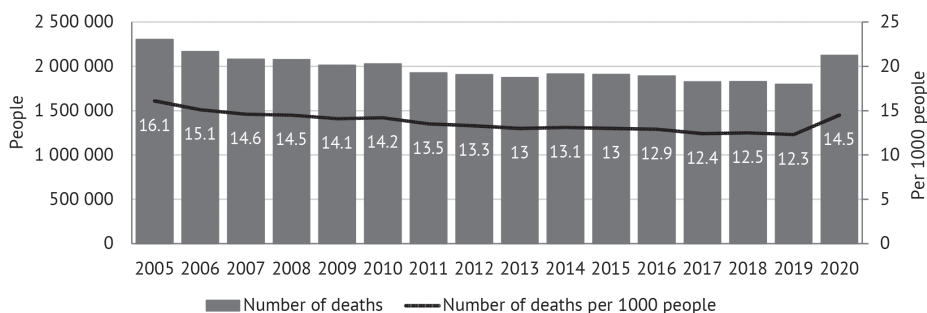


Fig. 27. Number of deaths and total mortality rate among population of Russia, people, 2005–2020

Source: Rosstat operating data

1 Available at: URL: https://www.ranepa.ru/documents/monitoring_demografia_2.pdf

monthly deaths values in previous years evidence higher absolute mortality rates in the winter-spring period, while in summer-autumn (July to September), it is common to observe a lower number of deaths. In 2020, the situation has changed significantly.

Since 2003, a downward trend in the number of deaths prevailed in Russia with the exception of small deviations from the trend in 2005, 2010, 2014 and 2018. According to the Rosstat preliminary data, the death toll in 2020 was 2 124.479. Compared to 2019, this indicator increased by 323.800 (18% more). The number of deaths in 2020 exceeded the level of 2007 (2 080.400) and was the highest in the last 13 years (*Fig. 27*).

Total mortality rate in 2020 was 14.5 cases (in 2019 it amounted to 12.3 per 1000 people), and growth constituted 18% compared to 2019.

Traditionally, the total mortality rate is the highest in regions marked by a relatively old population structure (Pskov, Tula, Tver, Vladimir, Novgorod, Orel regions), while the lowest rates are observed in regions with a young population structure (Republic of Ingushetia, Yamalo-Nenets Autonomous Okrug, Chechen Republic, Dagestan, Khanty-Mansi Autonomous Okrug).

To exclude the impact of the age structure and correctly compare mortality in the regions, it is reasonable to use standardized mortality rates. However, more detailed mortality data were not yet available at the time of preparing the study.

According to Rosstat, the infant mortality in 2020 was 4.5 cases per 1000 live births (*Fig. 28*). This figure is 8.2% lower than in 2019 (4.9 deaths per 1000 live births).

The gap between the maximum and minimum mortality rate for children under 1 year per 1000 live births is 13 ppm. The regions with the highest infant mortality rate include the Chukotka Autonomous Okrug (15.1 ppm), the Kostroma Region (7.5 ppm), the Altai Republic (7.4 ppm), the Nenets Autonomous Okrug and the Republic of Dagestan (6.7 ppm).

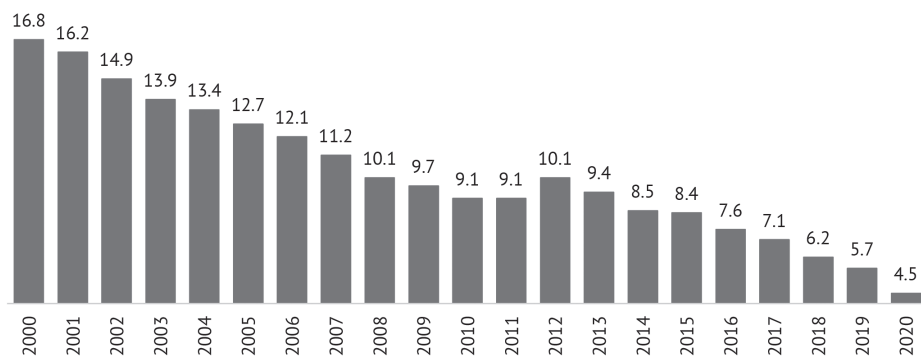


Fig. 28. Infant mortality rate, 2005–2020, per 1000 live births

Source: Rosstat operating data



Fig. 29. Infant mortality rate, 2020, per 1000 live births

Source: Rosstat operating data

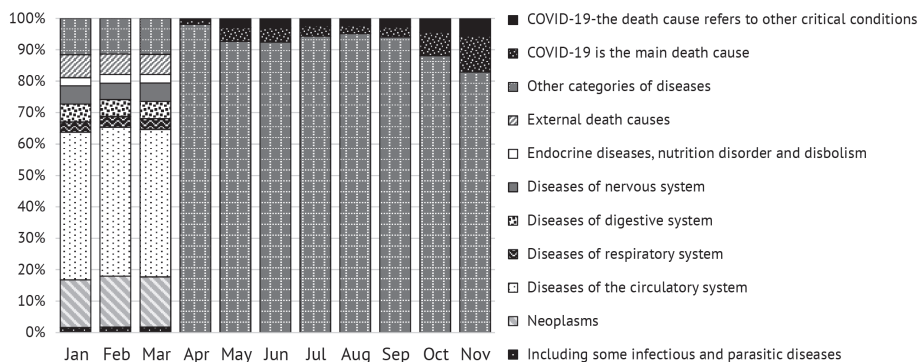


Fig. 30. Number of deaths due to death causes, January-December 2020, % of the total number of deaths within one month

Source: Rosstat operating data

Until April 2020, Rosstat published operating data related to main causes of death, however, since April, the causes of death have been entered only in terms of COVID-19 (*Fig. 30*).

Since April 2020, Rosstat publishes information on the number of registered deaths with an established diagnosis of coronavirus infection. By the time this study was prepared, such data were available only for 9 months (April-December). All deaths associated with COVID-19 are divided into two groups (*Table 5*):

- cases when COVID-19 is selected as primary death cause (from COVID-19);

- cases when COVID-19 is selected as other death cause, including when COVID-19 plays a significant role in the development of underlying disease and its fatal sequellae (with COVID-19).

According to Rosstat data, 84.500 people died from COVID-19 in January - December (COVID-19 identified), while virus was not identified for 17.500 people, however, probably it was due to COVID-19. This constitutes 4.9% of all diseased in 2020. COVID-19 as a concomitant disease was noted in 58.500 deaths, which is 2.75% of all deaths in 2020. On the whole, deaths from coronavirus and in association with coronavirus account for 50% of the increase in the number of deaths in 2020.

Table 5

Data on the number of registered deaths with an established diagnosis of coronavirus infection, people

	Main death cause			Death cause refers to other critical conditions		
	Total	Including:		Total	Including:	
		COVID-19, virus identified	Probably, COVID-19, virus not identified		COVID-19 is not the main cause of death, however, it had a significant impact on development of fatal complications of the disease	COVID-19 is not the main cause of death and did not have a significant impact on the development of fatal complications of the disease
April	1748	1350	398	1077	435	642
May	7603	5926	1677	5066	1609	3457
June	7317	5825	1492	5018	1484	3534
July	6084	5063	1021	4287	1237	3050
August	4018	3436	582	3655	1184	2471
September	5438	4579	859	4741	1428	3313
October	15 103	13 077	2 026	9 230	1 794	7 436
November	25 107	21 262	3 845	12 502	2 288	10 214
December	31 550	25 980	5 570	12 885	2 065	10 820
TOTAL	103 968	86 498	17 470	58 461	13 524	44 937

Source: Rosstat operating data

Studies in other countries also evidence that the increase in the number of deaths during the coronavirus period is not always attributable to the reported death toll from COVID-19.¹

What are the reasons for the increase in mortality not directly related to coronavirus infection? American researchers note that during the COVID-19 pandemic, the number of initial, routine examinations and the number of hospitalizations decreased.² In the United States, during the first wave of the epidemic, there was the largest decline in visits to emergency department for

1 Kontis, V., Bennett, J.E., Rashid, T. et al. Magnitude, demographics and dynamics of the effect of the first wave of the COVID-19 pandemic on all-cause mortality in 21 industrialized countries. *Nat Med* 26, 1919–1928 (2020). URL: <https://doi.org/10.1038/s41591-020-1112-0>

2 Rosenbaum L. The untold toll—the pandemic’s effects on patients without Covid-19. *N Engl J Med*. Published online April 17, 2020. doi:10.1056/NEJMms2009984.

abdominal pain and other digestive or abdominal signs and symptoms, as well as essential hypertension.¹ According to Electronic Health Record (EHR), the number of preventive screenings for cancer conducted in the United States from February to May 2020 (during the period of the most stringent anti-epidemic constraints) fell by 90% compared with the average number of screenings in the same period in 2017-2019.² Data from the Netherlands National Cancer Registry also show a significant decrease in cancer incidence / diagnosis compared to previous years.³ In a study of the American health care system, the decrease in the number of patients visiting emergency departments in the United States is associated with the fear of contracting COVID-19.⁴ According to scientists, this resulted in growth in morbidity and mortality, in particular, emergency medical services (EMS) reported a record number of cardiac arrests, by 45% more than before the pandemic, indicating that patients waited too long to see cardiac care.⁵ Having analyzed data on the reduction of visits and hospitalizations to medical institutions under the Department of Veterans Affairs (VA) in the USA, Aaron Baum and Mark D.Schwarz concluded that patients simply avoided admission to hospitals in order to minimize the risk of contracting COVID-19.⁶ Scientists from Hong Kong confirm the findings of foreign colleagues that people are scared to visit hospital due to COVID-19.⁷ Italian researchers⁸ concluded that forced lifestyle changes and associated effects, as well as late admission to hospital and, as a consequence, a more serious severity of the disease, influenced the negative rates of death from cardiovascular diseases.

In general, it can be concluded that growth in the number of deaths without an official diagnosis evidencing the coronavirus infection may be associated with several factors:⁹

- 1 Hartnett K., Kite-Powell A., DeVies J., Coletta M., Boehmer T., Adjemian J., et al. Impact of the COVID-19 pandemic on emergency department visits - United States, January 1, 2019-May 30, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69(23):699-704.
- 2 Christopher M., MD; Alejandro Munoz del Rio. Delayed Cancer Screenings – A Second Look. 17 July 2020. <https://ehrn.org/articles/delayed-cancer-screenings-a-second-look/>
- 3 Sud A, Jones M, Broggio J. et al. Collateral damage: The impact on outcomes from cancer surgery of the COVID-19 pandemic [published online ahead of print, 2020 May 16]. *Ann Oncol.* 2020; S0923-7534(20)39825-2. URL: <https://doi.org/10.1016/j.annonc.2020.05.009>
- 4 Wong L., Hawkins J., Langness S., Murrell K., Iris P., Sammann A. Where are all the patients? Addressing Covid-19 fear to encourage sick patients to seek emergency care. *NEJM Catal.* 2020. URL: <https://catalyst.nejm.org/doi/pdf/10.1056/CAT.20.0193>
- 5 Mantica, Guglielmo et al. Non-COVID-19 visits to emergency departments during the pandemic: the impact of fear. *Public health vol. 183 (2020): 40-41.* doi:10.1016/j.puhe.2020.04.046.
- 6 Baum A, Schwartz M. Admissions to Veterans Affairs Hospitals for Emergency Conditions During the COVID-19 Pandemic. *JAMA.* 2020;324(1):96-99. doi:10.1001/jama.2020.9972.
- 7 King Pui Florence Chan, Ting Fung Ma, Wang Chun Kwok. Significant reduction in hospital admissions for acute exacerbation of chronic obstructive pulmonary disease in Hong Kong during coronavirus disease 2019 pandemic, *Respiratory Medicine*, Volume 171, 2020. URL: <https://doi.org/10.1016/j.rmed.2020.106085>
- 8 King Pui Florence Chan, Ting Fung Ma, Wang Chun Kwok. Significant reduction in hospital admissions for acute exacerbation of chronic obstructive pulmonary disease in Hong Kong during coronavirus disease 2019 pandemic, *Respiratory Medicine*, Volume 171, 2020. URL: <https://doi.org/10.1016/j.rmed.2020.106085>
- 9 Hiom, S. How coronavirus is impacting cancer services in the UK. *Science Blog* <https://scienceblog.cancerresearchuk.org/2020/04/21/how-coronavirus-is-impacting-cancer-services-in-the-uk/> (Cancer Research UK, 2020); Kansagra, A. P., Goyal, M. S., Hamilton, S. & Albers, G. W. Collateral effect of COVID-19 on stroke evaluation in the United States. *N. Engl. J. Med.* 383, 400-401

- significant impact on the development of fatal complications of concomitant diseases;
- lack or low availability of routine medical care;
- a decrease in the number of visits to medical institutions due to fear of infection;
- errors in death registration or coding

According to Rosstat operating data, it is difficult to assess the structure of mortality and its impact on life expectancy. It is expedient to wait for detailed data, which will be available only in summer of 2021. However, according to authors' preliminary estimates, life expectancy of the population in 2020 will not exceed 71.5 years.

5.7. Education during the year of pandemic¹

The year 2020 in the education system, just like in other sectors, was marked by the coronavirus pandemic. It dramatically changed the agenda and brought to the fore the tasks that had not been viewed as priorities. A month and a half before the onset of the pandemic, a State Council meeting on education was held in Russia, where the main tasks were identified as follows: the development of private preschool educational establishments, schools in rural areas; an increase in the student admission targets (budget-funded tuition) in regional higher educational establishments (HEE) and their reduction in the HEEs situated in the capital; and growth of targeted admission to medical and pedagogical HEEs. All these problems are undoubtedly important, and both the RF Ministry of Education and the RF Ministry of Education and Science are working towards their solution; however, the issues of online learning development, digital inequality, proctoring and virtual mobility of faculty and students, and the provision of employment for the students and graduates of higher educational establishments turned out to be much more urgent, as did the issues of new budget funding mechanisms - at least in the higher education system.

5.7.1. The general issues of the education system development identified during the pandemic

The coronavirus pandemic is not over yet, so it is still too early to assume that society is indeed capable of adequately assessing all its consequences, including for the education system. However, some conclusions can already be drawn. First of all, it is the financial vulnerability of many subsystems of the education system in general, and of educational establishments in particular.

In the preschool education sector, during the first wave of the pandemic only "on duty" groups were available for those children whose parents could not work

(2020); *Bernstein, L. & Sellers, F.S.* Patients with heart attacks, strokes and even appendicitis vanish from hospitals. The Washington Post. URL: https://www.washingtonpost.com/health/patients-with-heart-attacks-strokes-and-even-appendicitis-vanish-from-hospitals/2020/04/19/9ca3ef24-7eb4-11ea-9040-68981f488eed_story.html (2020).

1 This section was written by *Klyachko, T.*, Doctor of Economic Sciences, Director of the Center for Lifelong Learning Economics, IAES RANEP.

remotely. This translated into financial losses for state and municipal preschool educational establishments (hereinafter - PEE), because they did not receive the parental fees for looking after and caring for the children, as well as for paid extra-curricular educational services. Due to the allocation of subsidies designed to offset the loss of parental payments, these losses for the PEEs were not substantial; however, private preschool educational establishments suffered quite significantly, since they lost almost all their incomes. Most likely, some of the latter are not going to survive the pandemic, and the issue of developing the private preschool education sector will become even more acute in the post-pandemic period, when the burden on the state and municipal sectors is going to increase. At the same time, it should be borne in mind that the rather lengthy shutdown of kindergartens during the first wave of the pandemic resulted in preschoolers being deprived of the required educational services, including those that involved the preparation of young children for school, which may negatively affect their further education. In principle, the issue of compensation of the resulting learning loss, especially for the children from low-income families where the parents are unable to compensate for that loss using their own resources, will obviously become one of the substantive problems in the field of early development of children, although that issue has not yet been fully perceived.

Secondary school education underwent two phases during the pandemic. During the first wave, schools were shut completely, which created serious difficulties in online learning for children. During the second wave of the pandemic in the autumn of 2020, the students in grades 1–5 continued to attend school, and those in grades 6–11 studied remotely. Thanks to this arrangement, the financial losses of state and municipal secondary schools were minimized, while private schools suffered significant losses (from one third to half of their income). The supplementary education system suffered even more; recently, that system has been increasingly perceived not as a separate sector, but as a means of providing some additional courses complementary to the mainstream curriculum within the framework of individualization (or personalization) of children's learning trajectories (for example, "technology" classes can be held at "quantoriums", and be counted as part of the general educational program; a similar pattern can be applied to the specialized art or music schools). The supplementary classes were minimized during the switchover to online learning, because the time that students spent at their computers increased dramatically, and any unnecessary activities involving the use of electronic devices were usually suppressed by the parents. At the same time, according to our estimates, the schools that had been offering many supplementary classes on a paid basis, which greatly increased their attractiveness for families (because the schoolchildren could receive their entire educational services package in one place), also lost about 15–20% of their non-budgetary funding.

In the secondary vocational education system, serious losses were incurred by the private sector, as well as by the state vocational educational establishments (VEE) with a large share of fee-paying students or a significant share of paid educational services.

The vocational educational establishments that fell under the auspices (or patronage) of WorldSkills Russia, and so were much better funded compared to the other VEEs, more easily survived the first wave of the pandemic; and, with the support provided within the framework of the National Project “Education”, they likewise did well during the second wave. At the same time, the regions began to pool their secondary vocational education (SVE) system resources and develop network educational programs, because these organizations were unable to provide the online learning format independently, by relying on their own resources.

As for the higher education sector, it demonstrated several types of responses to the switchover to online learning during the pandemic. Among higher educational establishments (HEE), 20% actually switched not to online learning, but to correspondence education. They had neither the organizational nor the material resources for full-fledged online learning. Another 60–65% of higher educational establishments began to work in a mixed format: partly in an online mode, and partly by correspondence. These two modes were combined in varying proportions, but the correspondence mode prevailed. And only 15–20% of higher educational establishments (leading universities) were able to organize quite adequate online learning by investing a large amount of their extra-budgetary funding in this particular area of their activity.

This gave rise to a rather uncertain financial situation for this category of HEEs, especially during the first wave of the pandemic, because at that moment it was still difficult to adequately estimate their future losses of tuition fees, including those paid by foreign students, who were forced to return to their native countries, and by the students from other cities, who set off for home, as well as the fees to be paid by newly admitted students, because the potential applicants could be reoriented to the HEEs situated in their native region. In addition, some of the fee-paying students lost their part-time jobs that had been enabling them to pay their tuition fees in full or in part. Added to this was the loss of their part-time jobs by some of the budget-funded students, which had helped them pay their expenses in the metropolitan cities or regional capitals where the leading universities are located.

So, the higher educational establishments belonging to this category saw a sharp increase in their expenditures alongside a drop in their incomes. At the same time, it was the leading universities that were primarily required to reduce their tuition fees when switching to online learning – similarly to US, UK, and Australian universities.¹ As a matter of fact, the difference between full-time and online learning is most pronounced in leading universities, although they have retained almost all their scheduled classes (with the exception of practice-oriented universities), during which a tutor contacts students, be it via the Internet or online learning platforms like Moodle, Zoom, MSTEams, etc. Nevertheless, the quality of online teaching, even when provided by very capable tutors, is still lower than that of classroom studies due to the absence of non-verbal components of their communication with the audience, especially if they do not fully visualize

1 URL: <https://knife.media/universities-and-covid/>

their audience during online lectures or seminars. And such a situation is still quite widespread. Meanwhile, the faculty workload during the pandemic, as a rule, increased greatly due to the necessity to process methodically their teaching materials in order to make them suitable for online use. The burden on the administrative staff likewise increased, because under the new conditions they had to arrange all the organizational procedures in a different way. Accordingly, the leading universities had virtually no room for saving amid a sharp rise in their costs. That is why higher educational establishments generally refuse to reduce their tuition fees, both in Russia and abroad. As for average-rated HEEs, they had to restructure their activities to a lesser degree, and in 'weak' universities the restructuring was minimal. But the resources for development available to the latter are limited as it is, so for them it is also unacceptable to reduce their tuition fees. Meanwhile, in late 2020, the issue of reducing tuition fees, as well as that of employing students and graduates in the universities where they had been studying (by creating additional jobs for them), began to be increasingly emphasized in the public discourse. However, without government assistance, both these issues can have a negative impact on the financial sustainability of HEEs, including leading universities. According to our calculations, the needed additional budget funding for the 2020/2021 academic year amounts to at least Rb170 billion. These funds should be used to resolve issues like the creation of a digital educational environment in those HEEs where it insufficiently developed (by purchasing equipment and software, hiring IT specialists to service that equipment, equipping faculty and students with the necessary technical devices, improving the qualifications of administrative and managerial personnel and faculty, etc.); creation of additional jobs in HEEs for their students and graduates in research and educational departments; development of proctoring systems at the national level and at the level of each HEE; development of online courses (not less than 5,000 courses); increase in the number of budget-funded students (e.g., up to 65% of the number of secondary school graduates); support of student loans, etc. With the reduced tuition fees, the government will also have to compensate HEEs for their losses of private funding from students.

5.7.2. The consequences of a switchover to online learning

The emergency switchover of the education system to online learning will have far-reaching consequences for all the participants in the educational process. The World Bank, as part of its Human Capital Project, found that the learning loss during a three-month closure of schools during the first wave of the pandemic could result in schoolchildren's risk of losing up to 2.5% of their future income.¹ Therefore, it is necessary to develop a system of measures to compensate for the learning loss, primarily by secondary school students.²

The controversy in the World Bank's conclusions notwithstanding, the issue of compensating for the learning loss associated with the switchover to online

1 COVID-19 and Human Capital. Europe and Central Asia Economic Update. Office of the Chief Economist. Fall 2020. World Bank Group.

2 URL: <https://www.vtimes.io/2020/12/24/chelovecheskii-kapital-nuzhdaetsya-v-kompensatsii-a2208>

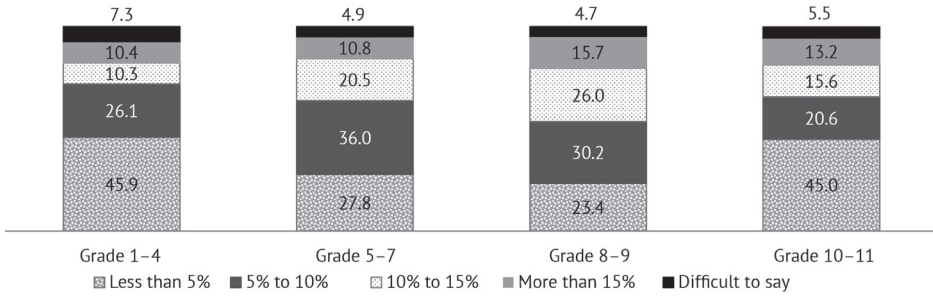


Fig. 31. Schoolteacher opinions of the share of students incapable of fully mastering the school curriculum, %

Source: School Performance Monitoring. CLLE, IAES RANEPА, 2018.

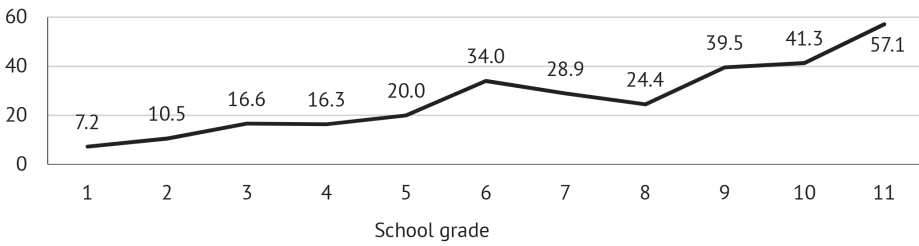


Fig. 32. The share of families that hire tutors for their children, by school grade, %

Source: School Performance Monitoring. CLLE IAES RANEPА, 2019.

learning deserves attention. It seems, however, that this issue is not quite so acute, at least for Russia. More precisely, the switchover to online learning made worse the situation for those students who had already had problems with their studies. As demonstrated by the “School Performance Monitoring” conducted by the IAES RANEPА’s Center for Lifelong Learning Economics (CLLE), according to teachers, in elementary school more than 5% of students already fail to properly master the curriculum. In basic school, the share of such students increases rapidly, and it shrinks only in grades 10-11, after a significant part of 9th grade graduates have left schools (Fig. 31).

At the same time, as follows from the monitoring data, 60% of parents regularly help their children with their homework; besides, as early as grade 1, 7.2% of families hire for their child an English language tutor (the English language is studied from grade 2, and the parents strive to prepare their child for that class), as well as tutors in other school subjects (Fig. 32).

At the same time, in 40% of families the parents do not help their children in their studies; these can be arbitrarily subdivided into 3 groups:

- families where the children cope with their school assignments on their own;
- families where the task of helping the children in their studies is delegated to tutors (note that in those families where the parents help their children, tutors can also be hired);
- families where the parents cannot or do not want to help their children in their studies.

Our estimates show that the third group is the most numerous one. In other words, 60–75% of the children who are not helped in doing their homework by their parents on a regular basis are those whose parents cannot/do not want to help them in their studies. In the total child population, these comprise 24–30%. With the switchover to online learning, they experience (or continue to experience) the greatest learning loss. Meanwhile, previously they had likewise failed to receive a normal education, and so left school *en masse* after the 9th grade. How much this cohort is going to increase after the pandemic? In the spring and summer of 2020, there was a sharp surge in the demand for tutoring services for schoolchildren, by about 20%.¹ So far, it is still difficult to say whether such a demand also began to be displayed by the families where the children used to cope with their studies on their own; or whether some of the parents failed to cope with their increased load (because now they had to help their children with the assignments that had been previously performed in class with the help of the teacher), and so they began to hire tutors. But the rapidly increasing share of 9th grade graduates who went on to the secondary vocational education system in 2020 demonstrates that the issue of children failing to cope with their school studies has become even more acute. At the same time, the growing share of those who after finishing their 9th grade enter vocational educational establishments may have to do with the deteriorating economic situation in most regions, which created incentives

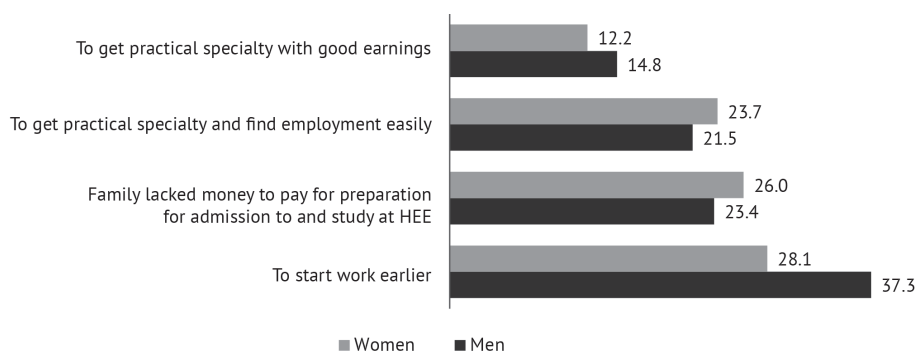


Fig. 33. The reasons for choosing the SVE system, by gender group, % (more than one answer was possible)

¹ See, e.g., URL: <https://newizv.ru/news/society/23-09-2020/spros-na-uslugi-repetitorov-vyros-v-2020-godu-pochti-na-20>

for families to adopt a new educational strategy (where children acquire a trade or specialty, enter the labor market earlier, and then receive a higher education while working, at their own expense, thus relieving their parents of the burden of paying for their education). The reasons for their transition to the SVE system, according to the survey conducted by the CLLE of the IPEI RANEPa in the summer of 2020, are shown in Fig. 33.

It is noteworthy that the reformatted conditions for taking the Unified State Exam, whereby those school graduates who were not going to enroll at a university were not required to take it, resulted in an increased share of 11th grade graduates entering secondary vocational educational establishments. In some regions their share exceeded 30% (Fig. 34).

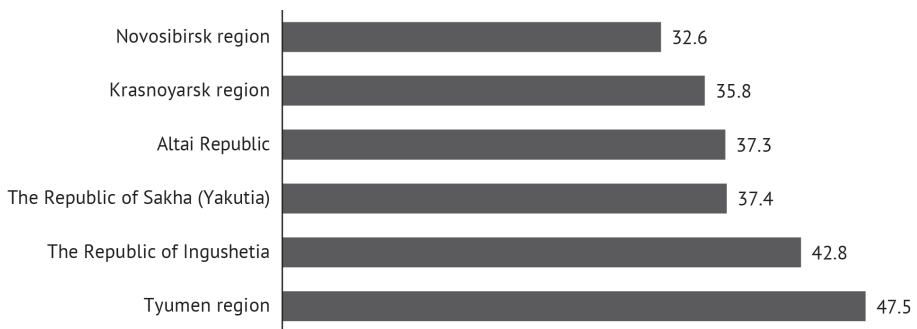


Fig. 34. The share of 11th grade graduates who entered the secondary vocational education system to study there full-time, %

Source: own calculation based on SVE admission data for 2020.

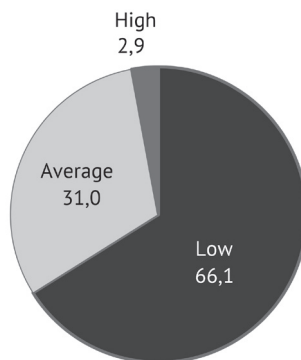


Fig. 35. The distribution of SVE system graduates into groups relative to their parental family resource availability, %

Source: Monitoring of SVE system graduates' employment, 2020.

As the survey has shown, 66% of the young people who enter secondary vocational education establishments after graduating from grades 9 and 11 come from families with low resource availability (poor or unstable financial situation; low education level of their parents; lack of opportunities for the parents to help them with their studies and further employment) (*Fig. 35*).

The coronavirus pandemic that worsened, among other things, the financial situation of families and the situation on the labor market, motivated many families to choose for their children to go to secondary vocational educational establishments. In our opinion, it is this particular factor, and not the school switchover to online learning for several months, that may later on influence both the incomes of the young generation and the quality of human capital in Russia.

It should also be noted that the SVE system, being practice-oriented, is even less suitable for online learning than general-education secondary school. That is, not to mention the fact that in recent years, this system, with its increasing contingents of students, has been suffering from chronic underfunding.

In the higher education sector, the switchover to online learning will have both negative and positive consequences. According to HPE-1 (Higher Professional Education) data for 2020 (no statistics for 2020 are as yet available for other levels of the education system), relatively few students were switched full-time to online learning (*Table 5*).

The coronavirus pandemic highlighted the issue of digital inequality of students across all the levels of the education system. In relation to that issue, it is the connection between digital inequality and the material inequality of the parental families of children and young people that is usually emphasized. However, it seems that the problem is, in fact, much deeper, and it has to do not only with the financial situation faced by families, but also with the differentiation between Russia's regions by their ability to provide households with access to broadband Internet and the Internet speed in various HEEs.

According to Rosstat data for 2019, on average in the Russian Federation before the pandemic, 26.4% of households did not have access to high-speed Internet, and even in the city of Moscow that index amounted to 13.4%. In 2019 in the Yaroslavl region, which is part of the Central Federal Okrug, that access was unavailable to 40.7% of households. In the Northwestern Federal Okrug, the worst index was displayed by the Novgorod region, where 37.7% of households had no access to broadband Internet; in the Southern Federal Okrug, it was in the Republic of Kalmykia (43.8%); in the North Caucasus Federal Okrug, it was in the Republic of Dagestan (36.8%); in the Volga Federal Okrug, it was in the Republic of Mordovia (39.1%); in the Ural Federal Okrug, it was in the Kurgan region (44.0%); in the Siberian Federal Okrug, it was in the Republic of Khakassia (46.5%); in the Far Eastern Federal Okrug, it was in the Chukotka Autonomous Okrug (50.6%) and Transbaikal Krai (58.4%) (*Fig. 36*).

Consequently, "digital inequality" starts at the level of general education, because the children in those households that had (or have) no access to broadband Internet simply cannot study remotely. Whenever secondary schools had no such access (mostly in rural areas), the teachers who had no broadband Internet access at home could not teach their classes via the school's digital infrastructure.

Table 5

The number of students enrolled in higher education programs, including with the use of e-learning and remote learning technologies

Index	2017/2018 academic year			2018/2019 academic year			2019/2020 academic year		
	all higher educational establishments	of these		all higher educational establishments	of these		all higher educational establishments	of these	
		state and municipal	other		state and municipal	other		state and municipal	other
1	2	3	4	5	6	7	8	9	10
Number of students enrolled in higher education programs, total	4,191,957	3,812,817	379,140	4,099,245	3,767,256	331,989	4,082,961	3,748,705	334,256
Of these, number of students enrolled in e-learning programs, total	676,886	652,780	24,106	839,875	797,609	42,266	1,530,939	1,465,380	65,559
Share of students enrolled in e-learning programs in total number of students enrolled in higher education programs, %	16.1	17.1	6.4	20.5	21.2	12.7	37.5	39.1	19.6
Students taught exclusively in e-learning format , total	2,319	1,912	407	17,243	12,472	4,771	36,689	36,017	672
Share of students taught exclusively in e-learning format in total number of students enrolled in higher education programs, %	0.1	0.1	0.1	0.4	0.3	1.4	0.9	1.0	0.2

Cont'd

	1	2	3	4	5	6	7	8	9	10
Share of students taught exclusively in e-learning format in number of students enrolled in e-learning programs, %		0.3	0.3	1.7	2.1	1.6	11.3	2.4	2.5	1.0
Number of students using remote learning technologies, total		469,632	377,151	92,481	534,437	463,891	70,546	1,936,924	1,812,595	124,329
Share of students using remote learning technologies in total number of students enrolled in higher education programs, %		11.2	9.9	24.4	13.0	12.3	21.2	47.4	48.4	37.2
In cohort of students using remote learning technologies, number of those who studied using exclusively remote learning technologies, total		30,598	20,465	10,133	40,019	14,814	25,205	74,225	53,890	20,335
Share of students using remote learning technologies in total number of students enrolled in higher education programs		0.7	0.5	2.7	1.0	0.4	7.6	1.8	1.4	6.1
Share of students using only remote learning technologies in total number of students using remote learning technologies, %		6.5	5.4	11.0	7.5	3.2	35.7	3.8	3.0	16.4

Source: HPE-1 for 2019/2020 academic year.



Note. Numbers without % sign are codes of Russian regions.

Fig. 36. The share of households with access to broadband in subjects of Russian Federation

Source: built on Rosstat data¹.

In VEEs and HEEs, the availability of broadband Internet is much higher, but after their switchover to online learning by no means all the students could actually study, and some of the tutors could not teach, either, because they no longer could use the equipment and Internet access of their educational establishments. Thus, the digital infrastructure of educational establishments to a certain extent reduced or even eliminated digital inequality in the context of full-time education process, while the online learning mode actually increased that inequality. Accordingly, no attempt to provide a solution to that problem just by distributing the relevant technical devices to those who need them could succeed if, in a force majeure situation like the current pandemic, no access to broadband Internet is simultaneously provided to all households, and the related costs are not subsidized from the budget for the students from low-income families.

Besides, it is necessary to consider some other factors that contribute to the negative perception of online learning (remote work of the parents, the presence in a small family apartment of several children who are studying in different grades at a secondary school or in another educational establishment, etc.). All these factors will create obstacles to the comprehensive development of online learning formats and teaching methods, although at a first glance they have little to do with it. At the same time, the understanding that under total or partial quarantine the education system would not be able to function without switching to online learning will become an incentive for further development of online learning methods and the involvement of all the participants in the educational process, from students to government educational bodies.

1 The author would like to thank A.O. Polushkina, senior researcher of the IPEI RANEPAs CLLE, for building this graph.

5.7.3. New budget funding mechanisms for the education system

The urgent switchover to distance learning raised the question not only of the allocation of some additional budget funds to the education system, but also of the improvement (or replacement) of the very mechanism of budget financing. The pandemic has shown that in the remote format, the per student principle of budget funding allocation (which is the basis of the current normative per capita funding model) becomes totally inappropriate and pointless. Thus, for example, an online lecture can be delivered to a much larger audience than an in-class lecture, and the students on the receiving end can be located not only in different settlements or regions, but even in different countries. Everything begins to be determined by the capabilities of video conferencing platforms. Besides, the lecture can be attended not only by the students formally enrolled in a given course, but also by those who have no such right but have received a relevant link from one of the latter. Moreover, the lecture can be easily recorded and distributed online without the lecturer's consent. Alternatively, for an online seminar to be effective, a smaller audience is required (at least at the present development level of e-learning and distance education methods); or, in case of secondary school classes, these should be reduced in size, which will translate into an increase in budget expenditures.

Meanwhile, online learning demonstrated that soon there will no longer be any point in linking a teacher to a specific educational establishment: one schoolteacher will be able to deliver lessons across several schools, and a professor do the same across several universities. Thus, a new student and faculty academic mobility model will emerge, and not only at the higher education level. The attempts to reduce such opportunities by imposing administrative bans will, most likely, come to nothing. This means that the existing normative per capita funding model will no longer be functional in the foreseeable future, and it is necessary to start developing and testing some alternative models that could replace it.

* * *

The coronavirus pandemic dramatically altered many current processes in the education system. The National Project "Education", launched in 2019, has largely lost its significance in the eyes of the public, since it has been prolonged until 2030, but is now being rapidly reformatted. And even in its updated form, it is no longer perceived as a factor capable of significantly affecting the evolution in this sector. The development of a new national project "Science and Universities", or rather the attempts to combine some parts of the two existing national projects ("Education" and "Science"), although so far these attempts have been mainly reduced to administrative reshuffling and reallocation of budget funds, resulted in a situation where universities were effectively cut off from the other levels of the education system. Thus, the logic of the continuous education is disrupted. However, the separation of higher education from secondary general

education schools and the secondary vocational education system followed by their reconnection (and vice versa), has been a regular development pattern in the Russian education system (and previously, in the Soviet education system).

However, all these transformations could not obscure the main thing: that for an indefinite period, online learning and related technologies have begun to play a dominant role in the education system. The transition to online learning revealed many problems that had been latent, and these problems came to the fore. In addition, online learning by itself gave rise to some new problems that will have a long-term impact on the development of this sector, even if in 2021 it will become possible to once again depart from widespread online learning practices and return to the traditional classroom form of education (e.g., the problem of the lack of proper knowledge and skills in some groups of students). At the same time, the positive aspects of online learning will need to be further promoted, in order to gradually replace correspondence education by online learning, develop closer interaction between core universities and their branches, support the virtual mobility of students and faculty, etc. Besides, it will be necessary to eliminate digital inequality among faculty and students, and among secondary schools and universities, by systematically upgrading their digital educational environment. And this will require not only additional budget allocations to the education system, but also some new mechanisms of providing a financial backing for its functioning.

5.8. 2020: Health care challenges¹

The coronavirus pandemic became the largest challenge for the domestic public health system. For the first time in modern history, healthcare organizers had to temporarily suspend the implementation of a major part of state guarantees ensuring free medical care to population, as well as practically all programs of health care strategic development. The extraordinary measures made it possible to avoid acute shortages of medical capacity for patients with COVID-19, however, at the same time reduced the availability of medical care for most other diseases.

As of the end of 2020, health care was going through a severe crisis shaped by an extremely high epidemic load, continuing constraints on the operation of medical organizations and the accumulated effects of previously existing restrictions. Mass dissatisfaction with health care activities in an emergency situation and the experience in direct government management of medical care gained during the pandemic, were the reason for further intensified discussion about a possible change of the health care model.

The amendments to the law on compulsory medical insurance (CMI) adopted at the end of the year may indicate the readiness of state regulators to return primarily to public health care, while the role of non-state actors to be limited to filling certain gaps in state medical and administrative structures.

¹ This section was written by *Avksentiev A.*, Researcher, INSAP RANEPa, Advisor to Director, FRI, RF Ministry of Finance; *Nazarov V.*, Candidate of Economic Sciences, Director of FRI, Ministry of Finance of the Russian Federation, Deputy Scientific Director, INSAP RANEPa; *Sisigina N.*, Researcher, INSAP RANEPa, Junior researcher, FRI, RF Ministry of Finance.

5.8.1. Pandemic impacts on public health

The key outcome of the pandemic was the deterioration of basic indicators of public health. Presumably, there will be a decline in life expectancy at birth at yearend for the first time in the last fifteen years with estimates varying from maintaining the level of the previous year (73.3 years¹) to a decrease by more than a year (up to 72.2 years²) or even more than two years according to independent experts (up to 71 years³).

Back in July, it was decided to postpone the timeline for achieving the national goal of increasing life expectancy at birth to 78 years to 2030 (previously planned for 2024).⁴ In November-December, the RF Ministry of Health presented for public discussion the first draft amendments to the state program “Health Development” containing a number of adjusted values of the target mortality rates for the current year (Table 6). It has to be emphasized that the actual lag behind the plan for most indicators with the exception of infant mortality began already in 2019, however, during the pandemic the situation sharply deteriorated. The mortality rates of the working-age population and mortality from diseases of the circulatory system in 2020 are highly likely to exceed the baseline levels shown before the start of the national project.

Table 6

Priority mortality targets

	2018	2019		2020	
	actual	plan	actual	plan	revision
Mortality of working-age population per 100 000 people	428.8	437	475.5	419	539.2
Mortality from diseases of circulatory system per 100 000 people	583.1	545	573.7	525	610
Mortality from neoplasms per 100 000 people	203.0	199.5	201.5	197	201.8
Infant mortality per 1000 born children	5.1	5.4	4.9	5.2	4.9

Sources: Conclusion of the Accounts Chamber of the Russian Federation on the outcome of an external audit of the implementation of the Federal Law “On the Federal Budget for 2019 and for the Planning Period 2020 and 2021” and Budget Accounting on the Execution of Federal Budget for 2019 at the Ministry of Health of the Russian Federation / Accounts Chamber, 2020. URL: <https://ach.gov.ru/upload/pdf/budget/%D0%9C%D0%98%D0%9D%D0%97%D0%94%D0%A0%D0%90%D0%92.pdf>; Draft Decree of the Government of the Russian Federation “On Amendments to the State Program of the Russian Federation” Development of Health Care “/ Federal portal of draft regulatory legal acts, 2020. URL: <https://regulation.gov.ru/projects#npa=110586>; Draft Decree of the Government of the Russian Federation “On Amendments to the State Program of the Russian Federation” Development of Health Care “/ Federal Portal of Draft Normative Legal Acts, 17.12.2020. URL: <https://regulation.gov.ru/projects#npa=111280>.

- 1 Draft unified government plan to achieve Russia’s national development goals for the period up to 2024 and for the planning period until 2030 / May Decree, 15.10.2020. URL: <https://t.me/maydecree/4504>
- 2 Draft Decree of the Government of the Russian Federation “On Amendments to the State Program of the Russian Federation” Development of Health Care “/ Federal Portal of Draft Normative Legal Acts, 17.12.2020. URL: <https://regulation.gov.ru/projects#npa=111280>
- 3 Alexey Raksha: “Rosпотребнадзор draws reports and does the self-assessment” / Business.Online, 07.12.2020. URL: <https://www.business-gazeta.ru/article/491270>
- 4 Executive Order of the President of the Russian Federation of 07.05.2018 No. 204 “On National Goals and Strategic Objectives for Development of the Russian Federation for the period up to 2024”; Decree of the President of the Russian Federation of July 21, 2020 No. 474 “On the National Development Goals of the Russian Federation for the period up to 2030”.

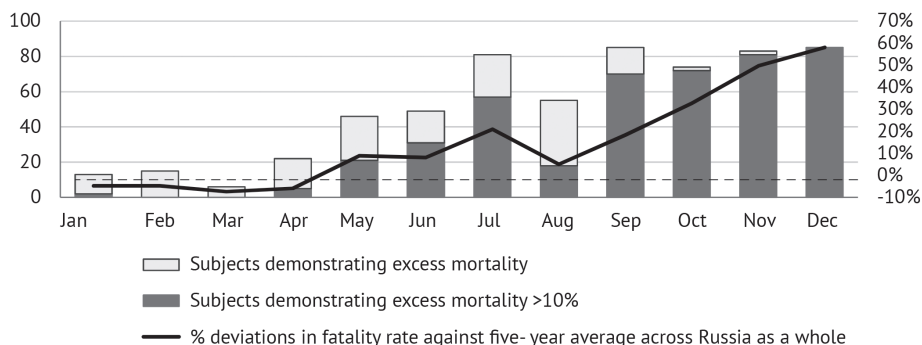


Fig. 37. Dynamics of excess mortality in Russia, 2020

Source: Rosstat

The pandemic of a new coronavirus infection and the resulting formal and informal restrictions on the availability of medical care in other areas were main drivers of excess mortality. The first months of 2020 showed a clear positive trend towards a decrease in mortality, which remained in most regions of the country until April and in some remote and sparsely populated regions until June.

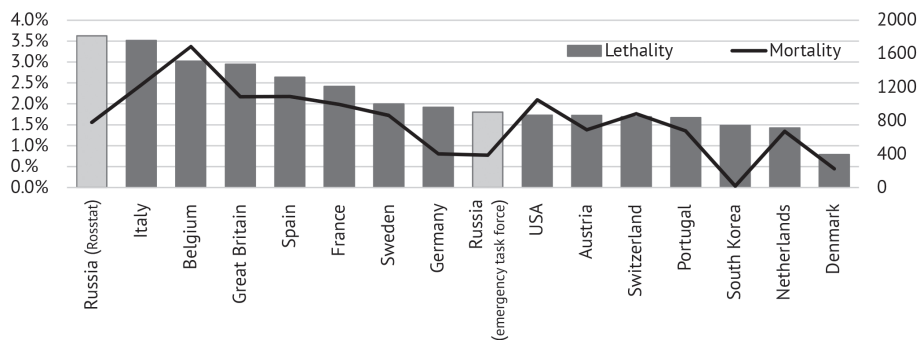
Only in July did negative trends spread to most of the country's territory, followed by a decline in August and a new increase in the fall-winter (Fig. 37).

According to the updated Rosstat data, 114.600 people died directly from COVID-19 in 2020 (primary cause of death) or in association with this disease (it significantly impacted on the development of fatal complications of another disease). The total number of deaths for the year exceeded the average five-year value by 274.000 cases (+ 14.8%).¹ The remaining 159.400 excess deaths can be explained both by errors in the coding of the death causes (in some regions of the Russian Federation, the share of deaths from COVID-19 and in connection with this disease is less than 10% in excess mortality) and increased mortality from other causes due to restrictions on obtaining planned medical care.

The first estimates of mortality and lethality from a new coronavirus infection in Russia, calculated based on the operational statistics, corresponded to the level of South Korea and leading Western countries (Austria, Germany). The Rosstat publication of detailed mortality data, rise in the fall-winter incidence rate and the expansion of testing in foreign countries resulted in a significant revision of Russia's position in the world (Fig. 38)

The most likely explanation for the excess mortality not related to COVID-19 is a decline in the availability of medical care in other areas caused by the transfer of resources to provide care for patients with a new coronavirus infection and the associated formal restrictions on provision of planned medical care in other

¹ Natural movement of the population across subjects of the Russian Federation in January-December 2020 / Rosstat, 10.02.2021. - URL: <https://rosstat.gov.ru/storage/mediabank/TwbjciZH/edn12-2020.html>



Note. The reported lethality and mortality rates may differ by country from the actual ones due to specifics of national approaches to diagnosing and registering of deaths from COVID-19.

Fig. 38. Mortality (per 1 mn people) and lethality from coronavirus infection (% of the number of registered cases) in Russia and foreign countries, 2020

Source: Data on cumulative cases and deaths: WHO Coronavirus Disease (COVID-19) Dashboard // WHO. 10 February 2020. URL: <https://covid19.who.int/>; Data on population size: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019. Online Edition. Rev. 1. URL: <https://population.un.org/wpp/Download/Standard/Population/>. Verified data on Russia: Natural movement of the population in the context of subjects of the Russian Federation in January-December 2020 / Rosstat, 10.02.2021. URL: <https://rosstat.gov.ru/storage/mediabank/TwbjciZH/edn12-2020.html>.

areas, as well as patients' reluctance to contact medical organizations during a pandemic seen as potential foci of infection.

A decline in the number of medical visits followed by a subsequent growth in the proportion of diseases detected at late stages and mortality from other causes are observed all over the world. Some experts confirm these effects in Russia. Thus, according to the chief freelance cardiologist of the Ministry of Health of Russia, the number of planned hospitalizations for cardiovascular diseases decreased by 20-50%, while late hospitalizations increased by 25%.¹ According to various estimates, in-hospital mortality from myocardial infarction increased by 1.5-2.5 times.²

Oncological care was a specific exception. According to Federal Compulsory Medical Insurance Fund, the scale of medical care for cancer patients increased by 35–40%.³ Nevertheless, it is possible to identify the pandemic negative impact even on this profile in the long term through late diagnosis of diseases due to overloading of the primary health care system or postponing treatment by the patient.

1 *Kalashnikov I.* Sergey Boitsov announced growth of late CVD hospitalizations by 25% / Medvestnik, 15.10.2020. URL: <https://medvestnik.ru/content/news/Sergei-Boicov-zayavil-o-rostе-sluchaeв-pozdnei-gospitalizacii-po-povodu-SSZ-na-25.html>

2 *Kobernik O.* Hospital mortality from myocardial infarction doubled // Medvestnik, 16.10.2020. URL: <https://medvestnik.ru/content/news/Gospitalnaya-letalnost-ot-infarkta-miokarda-uvеlichilas-vdvoe.html>

3 *Pogontseva E.* FCMI recorded an increase in the volume of assistance to cancer patients / Medvestnik, 27.11.2020. URL: <https://medvestnik.ru/content/news/FOMS-zafiksiroval-rost-obemov-pomoshi-onkopacientam.html>.

5.8.2. Pandemic impacts for health care

At the level of health care, a change in the structure of medical care was the main effect of the pandemic. The measures aimed to ensure the prioritized provision of medical care to patients with a new coronavirus infection (repurposing treatment facilities of other profiles and limiting provision of planned medical care) prevented a critical overload on the medical network, but ended in a decrease in both the current income of medical organizations and long-term investments in the industry.

The requirements to provide beds for treating a new coronavirus infection and the allocation of these beds, approved in March, (subsequently, norms were further revised upward)¹ were the pivot point for transformation. A massive re-profiling of specialized departments and hospitals of other profiles for the needs of patients with COVID-19 started in April,² as well as the deployment of temporary stationary modules based on pre-fabricated structures³ and non-medical facilities,⁴ and construction of new infection centers started in some subjects of the Russian Federation.⁵

To release additional beds and prevent the emergence of infection foci in medical organizations, the subjects of the Russian Federation were recommended to suspend the impatient provision of routine medical care,⁶ which was later officially approved in most subjects of the Russian Federation by resolutions of chief sanitary doctors⁷, or governors' decrees.⁸

At the same time, medical examination of adults⁹ and children¹⁰ was suspended. Provision of emergency medical care and planned treatment for cancer, diseases

- 1 Letter of the Ministry of Health of the Russian Federation of 03.24.2020 No. 30-1 / 10 / 2-24 "On Minimum Requirements to Facilities and Premises Planned for Additional Infectious Beds to Treat Patients with COVID-19."
- 2 Resolution of the Government of the Russian Federation of 02.04.2020 No. 844-r "On Approval of Medical Organizations to be Redesigned to Provide Inpatient Medical Care to Patients with a Confirmed Diagnosis or Suspected Coronavirus Infection COVID-19." Resolution of the Government of the Russian Federation of 24.04.2020 No. 1131-r "On Approval of the Preliminary List of Medical Organizations to be Redesigned to Provide Inpatient Medical Care to Patients with a Confirmed Diagnosis of a New Coronavirus COVID-19 infection or Suspected of a New Coronavirus Infection COVID-19 according to a Special Instruction."
- 3 Temporary modules for coronavirus convalescents to be built in Moscow at 9 hospitals // TASS. April 17, 2020. URL: <https://tass.ru/moskva/8274113>
- 4 The temporary hospital at Lenexpo received the first patients with coronavirus // RIA Novosti. May 3, 2020 URL: <https://ria.ru/20200503/1570923096.html>; The authorities rejected temporary hospitals // Kommersant FM. July 7, 2020 URL: <https://www.kommersant.ru/doc/4406843>
- 5 Sobyenin opened a new infectious diseases hospital in Voronovsky built in a month // TASS. April 17, 2020 URL: <https://tass.ru/moskva/8273755>; The Ministry of Defense completed the construction of 16 multifunctional medical centers to combat coronavirus // TASS. May 15, 2020 URL: <https://tass.ru/ekonomika/8482955>
- 6 Order of the Ministry of Health of Russia dated March 16, 2020 No. 171 "On Temporary Procedure for Organizing Work to Prevent and Reduce Risks of the Spread of COVID-19."
- 7 Resolution of Chief State Sanitary Doctor for St. Petersburg dated 03.23.2020 No. 3 "On Additional Measures to Reduce Risks of the Spread of COVID-2019 in St. Petersburg."
- 8 Decree of the Governor of the Altai Krai dated 31/03/2020 No. 44 "On Particular Measures to Prevent the Import and Spread of a New Coronavirus Infection COVID-19."
- 9 Resolution of the Government of the Russian Federation of March 21, 2020 No. 710-r "On Temporary Suspension of the All-Russian Adults' Prophylactic Medical Examination in the Russian Federation."
- 10 Decree of the Government of the Russian Federation of 03.04.2020 No. 432 "On Specifics of Implementation of Basic Compulsory Medical Insurance Program amid Threat of Spreading

of the cardiovascular and endocrine systems, as well as renal replacement therapy, was not formally subject to restrictions, and the corresponding specialized departments were not intended to re-profiling¹, but in reality, both the Moscow and regional lists of re-profiled federal and private medical organizations included institutions providing care for cardiovascular and oncological diseases,² which indicates a reduction, at least, in the volume of high-tech medical care.

Early and large-scale preparation of health care has helped to avoid an acute shortage of beds for patients with COVID-19. By the time of the first peak in the incidence in May-June, specialized bed capacity for patients with a new coronavirus infection reached 184.000 with at least 35% remained in reserve.³ In some areas, the epidemic could have been more severe (in particular, in the Sverdlovsk region the occupation of infectious beds in mid-July was 81%, in Yekaterinburg it amounted to more than 90%⁴), but it remained far from the worst foreign scenarios (Lombardy, New York). In autumn, when the epidemic spread to most of the RF subjects, the situation became noticeably more complicated, but still was under control. The total number of beds for patients with a new coronavirus infection increased to 287.000 and their average occupancy up to 77%.⁵ The employment threshold of a specialized bed capacity constituting 90% in October was exceeded in 16 regions⁶; by November, their number dropped to six.⁷

Taking into consideration the obvious need to revise the structure of medical care during a pandemic, the question of acceptable scale of reduction in the volume of planned medical care remains controversial. Along with a decline in the availability of medical care and growth in mortality from other causes, the change in the structure of services became an additional factor in disruption of medical organizations.

Targeted funds allocated by the federal government and the RF subjects' authorities in connection with the pandemic did not compensate for the loss of income from provision of medical care in other fields. The suspension or slowdown

Diseases Caused by a New Coronavirus Infection.”

- 1 Decree of the Government of the Russian Federation of 03.04.2020 No. 432 “On Specifics of Implementation of Basic Compulsory Medical Insurance Program amid Threat of Spreading Diseases Caused by a New Coronavirus Infection.”
- 2 Resolution of the Government of the Russian Federation of 02.04.2020 No. 844-r “On Approval of Lists of Medical Organizations to be Redesigned to Provide Inpatient Medical Care to Patients with a Confirmed Diagnosis or Suspected Coronavirus Infection COVID-19.” Resolution of the Government of the Russian Federation of 24.04.2020 No. 1131-r “On Approval of Preliminary List of Medical Organizations to be Redesigned to Provide Inpatient Medical Care to Patients with a Confirmed Diagnosis of a New Coronavirus COVID-19 Infection or Suspected of a New Coronavirus Infection COVID-19 according to a special instruction.”
- 3 Information Center for Monitoring the Coronavirus Situation. Operational monitoring of the readiness of regional health systems for hospitalization of patients with pneumonia. URL: <https://xn--j1ab.xn--h1ae9a.xn--p1ai/>
- 4 The RF Presidential Envoy in UFO informed about the shortage of beds for patients with coronavirus in the Sverdlovsk Region // TASS. July 17, 2020 URL: <https://tass.ru/ural-news/8989555>
- 5 Information Center for Monitoring the Coronavirus Situation. Operational monitoring of the regional health systems readiness for hospitalization of patients with pneumonia. URL: <https://xn--j1ab.xn--h1ae9a.xn--p1ai/>
- 6 Meeting with Members of the Government / President of the Russian Federation, 28.10. - URL: <http://kremlin.ru/events/president/news/64293>
- 7 Tatiana Golikova named the regions with “the most critical situation” / RBC, November 24, 2020. URL: <https://www.rbc.ru/society/24/11/2020/5fbcc2009a7947f7be6e16be7>

in the implementation of most of the health care strategic development programs have further exacerbated the situation.

From a formal point of view, health care funding has increased in 2020. According to preliminary estimates, total government spending on health care increased by Rub 589 bn corresponding to 0.6% of GDP. Already next year, government spending is expected to decrease by Rub 162 bn or 0.3% of GDP. (Table 7).

Table 7

Government spending on health care, billions of Rubles

	2019	2020	2021	2022	2023
Federal budget	713	1265	1129	1135	1101
CMI budget	2187	2369	2545	2658	2798
Consolidated budgets of RF subjects	905	761	753	798	849
Total: RF consolidated budget	3805	4394	4428	4591	4748
Share in GDP, %	3,5	4,1	3,8	3,7	3,6

Note. There are projected values for 2020–2023.

Source: Alexander Sokolov. Money does not heal: where health care reform leads //Vedomosti, 15.10.2020. URL: <https://www.vedomosti.ru/society/articles/2020/10/14/843300-dengi-lechat>.

Most of the additional funding was allocated in connection with the pandemic and aimed at solving a relatively narrow list of tasks for organizing the treatment of patients with a new coronavirus infection: deploying and equipping a dedicated bed fund, purchasing personal protective equipment and testing systems, stimulating payments to medical workers.

The share of long-term investments (permanent intensive care beds, equipment for laboratory testing and radiological diagnostics) that can improve the quality and availability of medical care in the future, is relatively small in this flow of funds.

Another source of additional funds for the health care system was payment for medical care provided to patients with a new coronavirus infection. Since tariffs for such care were on average lower than service charges for specialized medical treatment, which were previously the main source of income for large hospitals, these receipts could not fully compensate for the lost income. For medical organizations operating under CMI program, these losses were compensated by the advance payment permit without taking into account the actual fulfillment of the planned volume of aid,¹ however, only partially. Funds received as part of such an advance can be used only for a limited set of mandatory payments: labor remuneration, payment of taxes and fees, payment of utilities and property maintenance. In December, this list was supplemented with expenses related to the fulfillment of obligations assumed under concluded civil law contracts, but in the amount of no more than 5% of fixed costs for the corresponding period.² The

1 RF Government Decree dated 03.08.2020 No. 1166 "On Amending Clause 1 of the Decree of the Government of the Russian Federation dated 03.04.2020 No. 432."

2 Ibid.

balance of unused funds is subject to return to the budget of the corresponding territorial CMI fund.

Another potential source of income for public health care institutions, i.e. provision of paid medical services, also turned out to be practically inaccessible during periods of restrictions on provision of routine medical care or re-profiling of the institution. Consequently, state medical organizations were limited in independent spending for almost a year, and timing of their own investments' recovery is not known.

Private medical organizations were also affected during the quarantine period. In the subjects of the Russian Federation with the most severe restrictions (St. Petersburg, Tver region), their work was completely prohibited. With milder approaches, where medical care was allowed, patient flow tended to decline due to concerns about transmission of the virus in healthcare organizations, and the overhead costs for providing the required grade of security increased.

In April-June, revenues of private medical organizations decreased by an average of 40-50% compared to the same period last year. Non-state market actors approached the Government of the Russian Federation proposing to add health care to the list of industries most affected by COVID-19,¹ however, the respective provision was adopted only in relation to dental practice.² Nevertheless, large private actors were able to outlast the difficult period and recover in H 2. It is expected that due to the effect of deferred demand, the market will be able to maintain the volumes of the previous year or even show insignificant growth (up to 5%), which will continue next year as well.³

In the long term, the state of health care and its performance will also be affected by a delay or slowdown in the implementation of a number of development programs. In particular, regional programs for modernization of primary health care were postponed (starting from January 1, 2021⁴) as well as regional pilot projects for testing drug insurance mechanisms (launching is expected in 2021, however, exact dates and list of pilot territories have not yet been determined⁵).

The National Health Care Project has not been formally interrupted, but many measures involving large long-term investments (construction and reconstruction of new facilities, purchase of equipment) show a low standard of performance.⁶

1 *Virchenko K.* Private medicine asks the government to include it among the victims of the coronavirus // *Vedomosti*, 04/06/2020. URL: <https://www.vedomosti.ru/business/articles/2020/04/06/827201-chastnaya-meditsina-prosit-pravitelstvo..>

2 Decree of the Government of the Russian Federation of 03.04.2020 No. 434 "On Approval of the List of Sectors of the Russian Economy Most Affected in the context of a Deteriorating Situation due to Spread of a New Coronavirus Infection."

3 Private medicine is making good progress / *RBC +*, 12/17/2020. URL: https://spb.plus.rbc.ru/news/5fdb4b697a8aa99d7f985114; Daria Shubina, Olga Chesnokova, Sergey Galayants, Varvara Kolesnikova, Alla Kraeva. Top-200 private multidisciplinary clinics in Russia / Vademecum, 02.10. URL: https://vademec.ru/article/top200_chastnykh_mnogoprofilnykh_klinik_rossii/

4 *Manuilova A.* Modernization of a viral nature // *Kommersant*. April 16, 2020 No. 69. P. 2.

5 Tatiana Golikova spoke about the project relative to drug insurance system / *RIA Novosti*, 04/09/2020. URL: <https://ria.ru/20200904/golikova-1576789857.html>

6 Operational report on the execution of the federal budget for January-September 2020 / Accounts Chamber, 09.11. URL: <https://ach.gov.ru/audit/9-mon-2020>

In particular, only 31% of the funds allocated for purchasing equipment for cardiovascular centers was spent in the first nine months.¹

5.8.3. Consolidating the position of state in health care

Combatting the new coronavirus infection suspended for several months the preparation of the next package of strategic health care reforms, but in the fall of 2020, several important management innovations were approved at once. It has to be emphasized that principal adopted initiatives were developed in accordance with Instructions of the President of the Russian Federation with their deadlines of implementation completed in 2020. Most of the independent proposals of the CMI Fund and the Ministry of Health of Russia were not supported by other participants and remained outside the law.

The crucial event of the year in the health care legal regulation was the adoption of amendments to the CMI law, introducing the so-called federal segment of the basic CMI program, thus, a separate amount of funds covering medical care provided by federal medical organizations with distribution and control over spending maintained directly by the Federal CMI Fund.² With an insignificant volume of the federal segment (in 2021, 5.2% of the total funds allocated to finance the basic CMI program³), the new law creates a dangerous precedent for abandoning fundamental insurance principles. Proposed new rules for organizing the activities of the federal segment:

- abolish independent quality control and availability of medical care. The Federal CMI Fund becomes both the manager of funds and the sole controller of effective spending;
- restrict competition between health care organizations. Insured individuals lose the opportunity to choose between organizations of the federal and territorial segments, which will inevitably result in a decrease in the system's patient focus;
- identify federal medical organizations into an independent health care subsystem, making it difficult to coordinate the work of federal and regional institutions operating in the same territory.

None of the listed norms was necessary to solve the initial problem, i.e. to ensure a sufficient amount of funding for federal medical centers without prejudice to the implementation of territorial CMI programs. Respective inter-territorial calculations could be made based on the allocation of the federal segment of basic CMI program with the distribution of the respective volumes according to decisions of a specialized federal commission created under the Federal CMI Fund or the Ministry of Health of Russia involving all stakeholders and preserving

1 *Grosheva M.* Regions purchased only 30% of the medical equipment needed to combat CVD in 2020 / *Medvestnik*. 24.09.2020. URL: <https://medvestnik.ru/content/news/Regiony-zakupili-tolko-30-neobhodimogo-dlya-borby-s-SSZ-medoborudovaniya-v-2020-godu.html>

2 Federal Law dated 08.12.2020 No. 430 "On Amendments to the Federal Law "On Compulsory Health Insurance in the Russian Federation."

3 Bill No. 1027745-7 "On the Budget of Federal Compulsory Medical Insurance Fund for 2021 and for Planning Period of 2022 and 2023"/ System for Ensuring Legislative Activity, 30.09.2020 / URL: <https://sozd.duma.gov.ru/bill/1027745-7>

existing mechanisms for monitoring the quality and availability of medical care, protecting patients' rights by medical insurance organizations (MIO hereunder). In this situation, dismissal of non-state actors from federal segment can be viewed as a ready signal of state regulators to return the distributive system of healthcare financing. This trend is confirmed by other regulatory changes.

Along with exclusion of MIO from servicing the federal segment of CMI program, the amendments adopted to the CMI law deprived medical insurance organizations of the authority to conduct medical and economic control and reduced the standard of expenses to administer CMI to 0.8-1.1% (0.5-1% according to the initial draft which made it possible to set the standard obviously insufficient for profitable activity¹). At the same time, MIOs have finally lost the right to receive income from savings of CMI funds.²

A number of discussed but not yet taken measures assumed increased pressure on private medical organizations: transition to a declarative procedure for inclusion in the registers of medical organizations participating in the implementation of the territorial CMI program (as opposed to the notification procedure), abolition of a direct legislative ban on refusal to provide medical care, included in the program of state guarantees, transition to rigid patient routing assuming possible restrictions on seeking health care in medical institutions of other subjects of the Russian Federation and small private medical organizations (proposed by the draft of a new procedure for providing medical care for cancer).³

A provision prohibiting to charge for medical care provided in excess of the planned values approved by decision of the Commission for developing territorial CMI program has been in effect since last year, however, only this year there has been a change in judicial practice with regard to this issue. Medical organizations received massive denials of claims requesting payment for such assistance.⁴ Eventually, it is proposed to further tighten the requirements for private medical organizations, including the possibility of limiting the volume of their activities in the subject of the Russian Federation and involving them to provide state-guaranteed medical care in an emergency.⁵

Likewise, a top-down system continues to build-up. In November, the Government of the Russian Federation was authorized to establish a unified system of remuneration for employees of the state and municipal institutions,

1 *Grishina T.* MIOs diet prescribed to insurance companies // "Kommersant". - 2020. - No. 201/P-S.

2 Order of RF Ministry of Health No. 1024n of September 25, 2020 "On Amendments to Rules of Compulsory Medical Insurance, approved by Order of RF Ministry of Health No. 108n of February 28, 2019, and a Standard Form of Contract on Financial Support of Compulsory Medical Insurance, approved by Order of the Ministry of Health and Social Development dated 09.09.2011 No. 1030n."

3 Passport of the draft departmental act "On Approval of the Procedure for Providing Medical Care to Adult Population with Cancer" / Federal portal of draft regulatory legal acts, 03.08.2020. URL: <https://regulation.gov.ru/projects?fbclid=IwAR3vuRjFFwi9L9FISMNjHjmUDSMLkmXx9K4nddu8euQC4knyN2G3sr8MKjg#departments=11&StartDate=3.8.2020&EndDate=3.8.2020&npa=106759>

4 Clinics were deprived of the opportunity to receive CMI funds through the court for provided medical care/ *Medvestnik*, 14.09.2020. URL: <https://medvestnik.ru/content/news/U-klinik-otnyali-vozmojnost-dobyvat-sredstva-OMS-za-okazannuu-pomosh-cherez-sud.html>

5 *Galayants S.* Doctors of private clinics can be recruited to work in state medical institutions during epidemics / *Vademecum*, 18.06.2020. URL: <https://vademec.ru/news/2020/06/18/vrachey-chastnykh-kliniki-mogut-privlech-k-rabote-v-gosmeduchrezhdeniyakh-v-period-epidemiy/>

including for health care workers (Instruction of the President of the Russian Federation dated 02.10.2019).¹ Health care will be the first industry to introduce a unified salary system. It is envisaged to take it into effect in all subjects of the Russian Federation from January 1, 2022.² At the end of November, a bill was submitted to the State Duma establishing mandatory approval to appoint heads of health authorities in the subjects of the Russian Federation³ by the RF Ministry of Health (Instruction of the President of the Russian Federation of 02.09.2019).⁴

The new position of the Ministry of Health of the Russian Federation with regard to private market actors raises concerns of other state regulators. Instructions to strengthen control over respect for rights of private medical organizations and MIOs were expressed by the Federal Antimonopoly Service,⁵ the Federation Council⁶ and the President of the Russian Federation.⁷

* * *

With a relatively successful pandemic experience, the state of national health care is inferior to the “pre-coronavirus” period in all key indicators. The recovery rate in the availability of medical care and public health will directly depend on timing of harnessing the spread of the virus. Today, the most likely scenario for the end of the epidemic within the country is the mass vaccination during 2021. The full recovery of health and provision of medical care indicators even under the most favorable scenario, may take several years.

5.9. The pandemic social and economic lessons in the North Caucasus⁸

The most pressing issues faced by the regions of the North Caucasus in 2020 were associated with the COVID-19 pandemic. In the North Caucasian Republics, particular aspects of the social organization and economic structure of these subjects of the Russian Federation had an impact on the course of the epidemic

1 The list of instructions following the meeting on the modernization of the primary health care unit Pr-2064 dated 02.10.2019.

2 *Kamaev D.* The government was authorized to establish a sectoral system of remuneration for health workers /Vademecum, 09.11.2020. URL: <https://vademec.ru/news/2020/11/09/pravitelstvo-poluchilo-pravo-ustanavlivat-otraslevuyu-sistemu-oplaty-truda-medrabotnikov/>.

3 Bill No. 1062459-7 “On Amendments to Articles 14 and 16 of the Federal Law” On the Fundamentals of People Health Protection in the Russian Federation.”

4 The list of instructions following the meeting on the modernization of primary health care Pr-1755 dated 02.09.2019.

5 *Beskaravaynaya T.* FAS will assess the risks of CMI reform / Medvestnik, 20.11. - URL: <https://medvestnik.ru/content/news/FAS-predlozil-monitoring-pravoprimeniya-popravok-v-zakon-Ob-OMS.html>

6 *Kalashnikov I.* Senators demanded quarterly reporting from authors of CMI reform / Medvestnik, 02.12. - URL: <https://medvestnik.ru/content/news/Senatory-potrebovali-ejekvartalnoi-otchetnosti-ot-avtorov-reformy-OMS.html>

7 List of instructions on improving compulsory medical insurance dated December 12, 2020 No. Pr-2072.

8 This section was written by *Kazenin K.*, Candidate of Sciences (Philology), Director, Center of Regional Study and Urban Planning IAES RANEPa, Researcher of the Gaidar Institute; *Starodubrovskaya I.*, Candidate of Economic Sciences, Head of Center for Political Economy and Regional Development of the Gaidar Institute, Leading Researcher, Center of Regional Study and Urban Planning IAES RANEPa.

and its consequences for the population. To build a state policy aimed to support the economy of the North Caucasus after a pandemic, as well as to improve the system for protecting people from epidemics and other natural threats in this part of the country, consideration must be given to local factors that have complicated the way of coping with the spread of a new infection by Republics of the North Caucasus Federal Okrug (NCFO).

It should be emphasized that according to official statistics presented on the stopcoronavirus.rf website, an increased incidence of coronavirus was not entirely typical for Republics of the North Caucasus compared to other regions of the Russian Federation. Thus, as of January 1, 2021, the total number of COVID-19 cases per 100.000 people was higher than the all-Russia level only in two Republics: Karachay-Cherkess Republic and Ingushetia (3263 and 2521 respectively with the all-Russia number constituting 2188).

However, the reliability of official morbidity data in a number of NCFO regions was repeatedly questioned, and it was caused in some cases by the contradictory policy of regional authorities in informing the population about the course of the pandemic. For example, during April - the first half of May, official data for the Republic of Dagestan indicated a relatively low incidence rate compared to most other regions.

According to republican authorities, the number of people infected with a new coronavirus in the region was 3.553 people as of May 19 with 32 deaths. However, on May 17, the then Minister of Health of the Republic of Dagestan Jamalutdin Gadzhiibragimov reported 657 patients with pneumonia who died having no confirmed diagnosis of COVID-19.¹ At that time, he estimated the total number of coronavirus and pneumonia cases in Dagestan during the epidemic at 13.000. Such contradictions between official sources especially typical for the North Caucasus regions during the spring wave of coronavirus and are suggestive that the real incidence rate there was significantly higher than the official daily statistics claimed.

Emergency measures taken by federal authorities in a number of NCFO regions in May-June implicitly confirm that the real situation regarding the pandemic and fighting against it was extremely unfavorable there. Such measures include the urgent dispatch of Moscow medical teams to Dagestan, Ingushetia and North Ossetia at the end of May² at the request of the President of the Russian Federation to fight the coronavirus, as well as the investigation by the central office of the Investigative Committee of the Russian Federation of a criminal case initiated in connection with a large number of violations in ensuring the work of doctors in Karachay-Cherkess Republic.³

1 Minister of Health of the Republic of Dagestan announced deaths of 40 doctors from pneumonia and COVID Society RBC (rbc.ru)

2 A charter flight with a team of doctors from Moscow arrived in Dagestan. RIA Novosti, 28.05.2020 (ria.ru); Doctors from Moscow arrived in North Ossetia to fight COVID-19. Rosyiskaya Gazeta (rg.ru); A team of doctors from Moscow arrived in Ingushetia to fight coronavirus Society TASS (tass.ru).

3 Investigative Committee of the Russian Federation initiated a case on non-payments to doctors in Karachay-Cherkessia - News:: Society :: Kommersant (kommersant.ru).

This evidence of the serious challenges faced by the North Caucasus during the pandemic makes it necessary to focus specifically on local factors that adversely affected North Caucasian regions during the period of the coronavirus increasing incidence. Based on the analysis of statistical data, media publications, as well as authors' field observations in 2020, these factors should include primarily the following:

1. Specifics of social contacts and high population mobility assisted to virus increasing incidence;
2. Low level of public confidence in government agencies responsible for anti-epidemic measures;
3. The proportion of the population, higher than nationwide, employed in small business sectors hardly affected by the pandemic.

Social and cultural risk factors in the wake of pandemic

High population mobility is true primarily because a major proportion of the population migrates for work both from villages to the cities of the North Caucasus Federal Okrug, as well as to other regions. According to the available information, due to the deteriorating economic situation, many of migrant workers returned to their homes in spring. Following the tradition, it is a must to meet with relatives, neighbors, friends upon returning. This creates favorable environment for the spread of the virus.

Such rural norms of behavior are one of the reasons for the *high density of social contacts*, making it especially dangerous in a pandemic. It is also largely created by the tradition of regular people mass gatherings in connection with the most important life events, i.e. birth of children, matchmaking, weddings, funerals, commemorations. According to numerous testimonies, it is the funeral rites that largely contributed to the infection. Massive outbreaks of infection were recorded after *taziyats* (condolence procedure). Moreover, even having information about the possibility of getting sick, people often did not cancel mass events as the pressure of public opinion turned out to be stronger.

In this context, the behavior of religious leaders, whose readiness to respond to epidemic threats differed from region to region, acquired particular importance. Mosques in the North-West Caucasus, i.e. in Kabardino-Balkar Republic, Adygea and in Krasnodar krai, were closed to the public on March 24, in Karachay-Cherkess Republic on March 26, in Ingushetia it happened at the very end of March.

Then, immediately after the first identified cases of infection, mosques not subordinate to the republican Muslim Spiritual Authority began to close in Dagestan. However, long enough, the Spiritual Authority only appealed to believers to refrain from visiting mosques, shorten the time of Friday prayers and observe hygiene requirements. As from April 10, the Spiritual Authority has called for limiting the number of participating prayers in mosques. However, the threat of crowding at the entrance and exit remained. The issue was finally resolved only by the resolution of the Chief Sanitary Doctor for the Republic of Dagestan dated April 16, ordering to prevent religious rites and ceremonies in the presence of people. The next day, the ban was duplicated by the order of the Spiritual

Authority. However, some large mosques in the region did not actually observe it until the end of April.

Generally, the experience of 2020 showed that taking into account the socio-cultural specifics of the North Caucasus Republics they require the development of such measures to counter the spread of dangerous infections, which would involve the interaction of regional authorities with various influential public structures, including religious ones.

The low level of public confidence in the authorities conducting anti-epidemic measures was manifested primarily in the mass protests of the population that took place in spring in a number of regions. Their focus was different. Thus, for instance, in Malokarachaevsky district of the Karachay-Cherkess Republic, residents' claims were related to the work of local doctors, who were accused of refusing to provide free medicines to the sick.¹ The situation demanded urgent personnel decisions from the republican Ministry of Health. The protests in Vladikavkaz, the capital of North Ossetia, ended in April in mass arrests and initiation of criminal cases and were associated with the shutdown of small businesses in the spring wave of the pandemic.² Their participants saw the ongoing developments as the officials' attempts to force independent entrepreneurs to close their business, as well as harshly criticized the republican authorities for insufficient assistance to those who suffered from lockdown. It has to be recognized that the high prevalence of conspiracy theories of the pandemic origin was the catalyst for the protests along with a low level of awareness among the population about the work of state bodies and institutions and the persisting people beliefs about a high level of corruption, including in healthcare. The latter is confirmed among other things by the estimates of a quantitative sociological survey conducted by the RANEPА in the Republic of Dagestan in May: almost half of the respondents (41.6%) agreed with the conclusion that the coronavirus was "artificially grown in a laboratory," and 29.7% agreed that the onset of the epidemic was in the interests of "rich and powerful groups" or "bureaucracy".³

At the same time, the population in a number of the North Caucasus regions demonstrated a significant potential for self-organization to counter the pandemic. Based on the example of Dagestan, the following main trends of countering the epidemic can be identified within the civil society and local communities⁴:

- *Information campaign.* Public organizations (for example, "Patient Monitor") and individual social activists carried out active raising awareness campaign, explained the danger of the epidemic and the inadmissibility of self-medication, invited qualified medical workers for providing recommendations on prevention and actions in case the disease was confirmed;

1 In Karachay-Cherkessia, the chief doctor of the Malokarachaevskaya hospital was dismissed after protests from the population.

2 Shots, batons, 55 detainees and an epidemiological catastrophe: the results of the protests in North Ossetia (kp.ru).

3 The survey was conducted using online methods. A total of 1129 residents of Dagestan were interviewed. The methodology used made it possible to ensure a fairly complete consideration of the opinions of various gender and age groups.

4 For more details see Symptoms of distrust: why Dagestan is experiencing a difficult epidemic Opinion RBC (rbc.ru)

- *Charity activity.* Numerous republican charity foundations, such as “Hope”, “Insan”, “Pure Heart”, etc., helped those in need amid shutdown of the economic activity due to the epidemic and bought individual protective equipment for the personnel of those medical institutions experiencing shortages;
- *Measures taken by rural communities.* Individual rural communities began to take measures to reduce the epidemiological threat. Such activities are known in four mountain regions. Mainly, they were limited to regulating the village entry. In some villages, in compliance with the decision taken by local authorities, wearing face masks was announced compulsory and mass people gatherings were interrupted;
- *Support of medical institutions by local communities.* Local groups of activists, local entrepreneurs as well as business people and officials coming from these villages, bought personal protective gear, medical equipment and medical supplies. There are facts proving purchases of ALV equipment.

However, the level of cooperation between the republican authorities and social activists was extremely low. No mechanisms for cooperation between the authorities and social activists participating or prepared to participate in the fight against the pandemic were not developed in the spring wave.

Economic impacts of the pandemic: small business

As already mentioned, the specificity of the pandemic economic impacts in the regions of the North Caucasus was determined by the role of small business in the local economy. The fact is that some of its areas represent a sphere of mass employment of the population in the North Caucasian Republics, and their decline can result in major social issues, tangible at the regional level. Likewise, a downturn in small businesses in the North Caucasus can result in growing of imbalances in spatial development and emergence of new “depressed” territories, since a high concentration in certain cities or regions is typical for a number of industries. However, when small business largely remains in the “shadow” zone, the possibility of receiving demanded forms of support from the state in times of crisis may become an incentive for a more complete “whitewashing” of production.

In November 2020, the authors conducted an express survey having interviewed entrepreneurs working in knitwear (Karachay-Cherkess Republic) and footwear industry (Republic of Dagestan). This choice was due to preliminary estimates based on open source data, demonstrating that these two branches of small business in the North Caucasus are characterized by the most massive employment, often informal. Currently, according to the republican authorities’ estimates, the shoe business of Dagestan employs at least 15.000 people.¹ The number of people employed in the knitwear industry in Karachay-Cherkess Republic is at least 12.000.² Ten in-depth interviews with entrepreneurs were conducted for each of these industries.

1 Several large shoe factories to open in Dagestan- Rossijskaya Gazeta (rg.ru).

2 For further information see *Konstantin Kazenin*. Small business in the North Caucasus Republics: risks amid pandemic and ways to reduce them//Monitoring of the economic situation in Russia:

Generally, the result of the survey was rather unexpected. According to respondents, the share of entrepreneurs who left the market during the pandemic was no more than 10%. The decline in production was recognized by all entrepreneurs, but they assessed its scale mainly as not exceeding the usual year-to-year fluctuations observed earlier.

However, it evidenced that the pandemic has intensified the transformation processes that began in the industries in question even prior to the pandemic. First of all, this refers to abandoning the traditional channels for selling products through the wholesale and retail markets in different regions of Russia, established back in the 1990s. In the wake of the pandemic, the closure of some of these markets and a significant reduction in trade in those markets that continued functioning, forced entrepreneurs to accelerate the transition to other business schemes that they began to develop before the pandemic. However, in almost all cases, such a transition, driven by a pandemic, has proved to be associated with serious challenges.

First, amid pandemic, entrepreneurs in both industries have intensified attempts to conclude contracts for the supply of their products to large retail chains. At the same time, the majority of entrepreneurs assess the actual experience of cooperation with such chains as unsuccessful, since they consider that the chains impose low prices, often demand unrealistically large volumes of supplies for local workshops, and also insist on signing a fixed price year contracts, which threatens losses in the ruble exchange rate amid fluctuations to manufacturers dependent on the supply of raw materials from abroad.

Second, entrepreneurs named trade through online stores as an important way to diversify sales, sensing the advantage in a lower price for the end consumer and in the independence of trade from possible anti-epidemic restrictions. Entrepreneurs in Karachay-Cherkess Republic estimate the volume of their products sold in 2020 through online stores at 20-40%, and those surveyed in the Republic of Dagestan - at 15-20%.

The lack of required experience in cooperation, including experience in building e-commerce-focused supply chains is the barrier to using online stores, which is why intermediaries enter the market buying products at low prices for their subsequent sale online.

Third, entrepreneurs consider fulfilling orders of the large brands of clothing and footwear owners as a promising new working scheme. Today, this scheme is being actively implemented in Dagestan. Entrepreneurs see the main challenge in using this scheme in the insufficiently competitive environment for customers: the owners of only two large Russian brands currently conclude contracts with Dagestan manufacturers of leather shoes, resulting in the opportunity to impose unfavorable terms on small shoe business for a supply of products.

The transformation processes that have accelerated in small business in the North Caucasus due to the pandemic provide the prospect for solving the long-standing issue of "whitewashing" the entrepreneurship in this part of the country if it becomes a condition for providing entrepreneurs with various forms of state support to solve the already listed issues.