

MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:

TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

No. 11(113) July 2020

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Monitoring of Russia's Economic Outlook

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1. ASSESSMENT OF THE SITUATION IN THE BANKING SECTOR

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The purpose of this study is to analyze the current status of Russian banks on the basis of their monthly balance sheets and to assess a number of risks that may arise for Russian banks and the banking system as a whole.

Our analysis is based on data entered into Reporting Form 101 'Trial Balance Sheet on the Accounting Records of a Credit Institution' posted by the Bank of Russia on a monthly basis to its official website. The data aggregation of first-order accounts in Reporting Form 101 is consistent with the banking analytics methodology suggested at KUAP.RU.¹

We studied separately the two main risks that the banking system is prone to be exposed to during a crisis period (past due debt growth risk and foreign exchange risk). Using a number of prerequisites, we plotted the scenario-based forecast movement of the performance indicators of individual banks through each of the two risk channels, and then summarized the results. Thus we obtained the quantitative estimates of capital losses for several biggest banks under that scenario.

Foreign exchange risks

As a result of the sharp depreciation of the ruble, the banking system's foreign exchange risks have increased. However, at present, as can be seen in *Table 1*, the share of foreign liabilities in the balance sheet total (assets/liabilities) of Russian banks is about 22%, same as the share of foreign currency assets.

Table 1

Assets and liabilities of Russian banks, billions of rubles

	01.01.2020	01.02.2020	01.03.2020
Assets (total)	82 696	82 701	83 999
including foreign currency assets	16 903	17 429	18 811
Liabilities (total)	73 455	73 328	74 525
including foreign currency liabilities	17 101	17 524	18 639
Equity capital (total)	9 241	9 374	9 474
US dollar exchange rate, Rb/\$ (nearest date)	62.1	63.9	66.4

Note. Assets: less provision for losses; equity capital: less expenditures.

Consequently, in the first approximation within the framework of the entire banking system, foreign currency liabilities are practically fully offset by foreign currency assets, even when the provision for losses is not taken into account.²

¹ URL: <http://kuap.ru/methodics/>

² Unfortunately, the official statements of credit organizations compiled in accordance with Form 101 contain no information on the reserves formed specifically for foreign currency assets.

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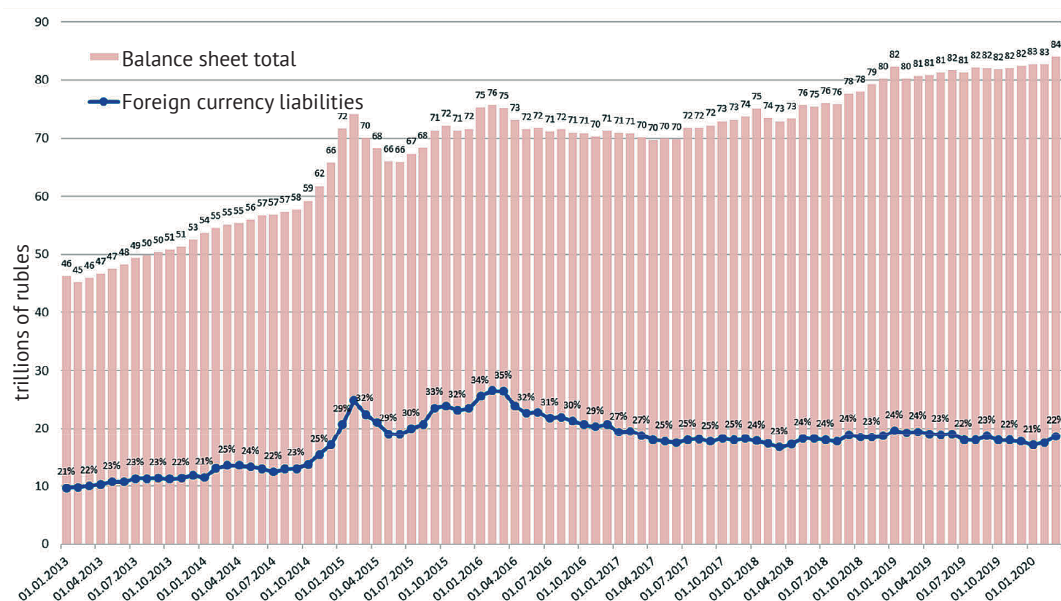


Fig. 1. The movement of foreign currency liabilities, trillions of rubles

However, some banks may demonstrate imbalances. Therefore it would be reasonable to separately analyze the balance of each bank.

It is worth noting that, prior to the crisis that broke out in late 2014, foreign currency liabilities took up about 22–23% of total liabilities, just as they do at present (Fig. 1). During the periods of the ruble's significant weakening in early 2015 and 2016, the volume of foreign currency liabilities surged to Rb25 trillion and Rb27 trillion respectively, which corresponds to about 35% of balance sheet total. Overall, foreign currency liabilities were increasing in proportion to the ruble's weakening.

More than half of banks' foreign currency liabilities (about 61–63%) are time deposits, nearly 80% of which are with maturities of more than 1 year (Table 2). The main foreign currency holders with banks are legal entities: their accounts take up about 53% of banks' total foreign currency liabilities.

Table 2

The structure of foreign currency liabilities

	01.01.2020		01.02.2020		01.03.2020	
	billions of rubles	%	billions of rubles	%	billions of rubles	%
Foreign currency liabilities	17 101	100	17 524	100	18 639	100
Time deposits, including	10 793	63.1	10 853	61.9	11 574	62.1
with maturities of 1 year or more	8 302	48.5	8 590	49.0	9 063	48.6
Current accounts	4 101	24.0	4 557	26.0	4 799	25.7
Liabilities to banks	1 458	8.5	1 426	8.1	1 518	8.1
Securities outstanding	128	0.7	134	0.8	144	0.8
Other foreign currency liabilities	353	2.1	312	1.8	358	1.9

Foreign currency assets are also prone to grow in ruble terms in response to the national currency depreciation; however, due to the global economic recession, world markets have demonstrated a significant downfall. The S&P500 dropped 25% from its peak value observed in mid-February. Nevertheless, the bulk of Russian banks' foreign currency assets are foreign currency loans to

1. Assessment Of The Situation in The Banking Sector

the non-banking sector, which account for about 53% of total foreign currency assets, while securities account for only 15%, of which stocks take up less than 1% (Table 3).

Table 3

The structure of foreign currency assets

	01.01.2020		01.02.2020		01.03.2020	
	billions of rubles	%	billions of rubles	%	billions of rubles	%
Foreign currency assets	16 903	100	17 429	100	18 811	100
Loans, including	9 208	54.5	9 249	53.1	9 813	52.2
<i>with maturities of 1 year or more</i>	7 469	44.2	7 510	43.1	7 936	42.2
<i>Past due</i>	352	2.1	361	2.1	353	1.9
Highly liquid assets	2 296	13.6	2 475	14.2	2 332	12.4
Securities, including	2 531	15.0	2 594	14.9	2 794	14.9
<i>Stocks</i>	44	0.3	44	0.3	25	0.1
<i>Bonds, including</i>	2 480	14.7	2 543	14.6	2 761	14.7
<i>Issued by corporate non-residents</i>	120	0.7	109	0.6	164	0.9
<i>Foreign government bonds</i>	22	0.1	27	0.2	16	0.1
<i>OFZ, OBR</i>	802	4.7	858	4.9	839	4.5
<i>Issued by corporate residents</i>	675	4.0	686	3.9	838	4.5
Loans to banks	442	2.6	454	2.6	435	2.3
Other assets	2 074	12.3	2 306	13.2	2 802	14.9

It should be noted that the deepest plunge of practically the entire world market of low-risk bonds, which occurred in mid-March, amounted to 5–10%, depending on their issuer's rating and duration. Thus, Bloomberg Barclays Global Aggregate Corporate Total Return Index over the period from late February to mid-March lost 11%, but then its downfall shrank to 6% by early April. The deepest drop of the MOEX Index of Russian corporate Eurobonds amounted to 10%; however, by April, its value also rebounded to 6%. The only bonds whose prices did not decline but, on the contrary, even slightly increased (by 3%) by early April were US government debt securities.

More than half of all foreign currency loans issued by banks are long-term ones, with maturities of more than 1 year. The majority of the recipients of foreign currency loans are legal entities (95%), of which more than a third (37%) are non-residents. It is worth noting that the share of past due debt in the total amount of foreign currency loans issued to the non-banking sector by early March amounted to about 3.6%, or 1.9%, of total foreign currency assets. For reference, the share of past due debt on ruble loans in banks' portfolios of ruble loans by early March had amounted to 7.2%. Thus, the situation with regard to foreign currency in the banking sector at the moment appears to be generally well-balanced.

Now let us consider several scenarios of changes in the value of assets and the ways that those changes can affect banks' equity capital on a time horizon of up to one year. After the launch of unprecedented relief measures in the developed countries, including massive cash injections into the economy, support of major producers and the Federal Reserve's decision to cut US interest rates to zero, the prices of bonds issued by reliable companies will continue to recover. In early April, the rate of decline already shrank to 2%, and so in the medium

term one may expect that the foreign bond market will achieve a recovery and then continue to climb. A similar movement pattern can be expected in the Russian bond market, if one gives consideration to the key rate reduction by the Bank of Russia.

Thus, in order to forecast the changes in the balances sheets of Russian banks with due regard for the expected movement of the forex rate, we assume the following starting values:

- **Exchange rate: Rb72 per US dollar¹**
- **Stock market: -10%²**
- **Bond prices (Russian and foreign bonds): +2%**

Table 4 presents the projected changes in the banking sector's balance sheet total in response to the changes in the forex rate and stock quotes.

Table 4

Forecast changes in the structure of foreign currency assets and liabilities

	01.03.2020	Forecast value
US dollar exchange rate, Rb/\$	66.4	72
Assets (total)	83 999	85 707
including ruble assets		
Securities	8 773	8 872
including		
Stocks	408	368
Bonds	7 889	8 028
including foreign currency assets	18 811	20 446
Loans,	12 580	13 641
Past due	397	431
Highly liquid assets	2 332	2 529
Securities,	2 794	3 078
including		
Stocks	25	25
Bonds,	2 761	3 045
including		
Issued by corporate non-residents	1 003	1 110
Foreign government bonds	838	927
OFZ, OBR	435	481
Issued by corporate residents	74	82
Other assets	1 105	1 198
Liabilities (total)	74 525	76 097
including foreign currency liabilities	18 639	20 210
Time deposits and current accounts	16 373	17 753
Liabilities to banks	1 763	1 912
Other foreign currency liabilities	503	545
Equity capital (total)	9 474	9 610
– capital change		136.02
– change in capital-to-asset ratio, %		0.16%
– change in equity-capital ratio, %		1.44%

The projected bank equity capital change amounts to Rb+136bn, even when we take into account the need for an additional provision for losses from past

1 This scenario corresponds to a certain average forecast from this study URL: <https://www.iep.ru/upload/iblock/e38/9.pdf>

2 Hereinafter – relative to the level as of March 1, 2020.

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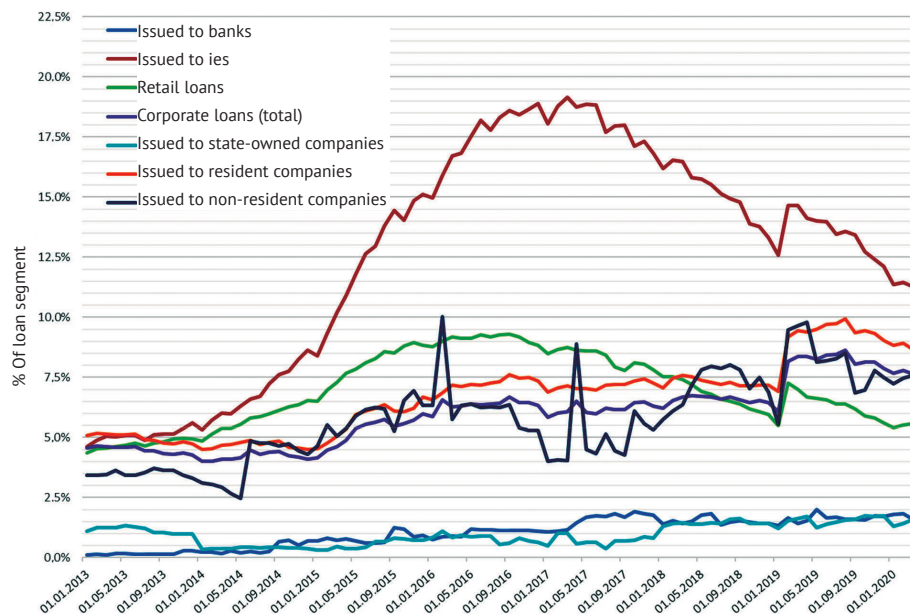


Fig. 2. Past due debt

due debt on foreign currency loans, which has also been increasing in ruble terms due to the national currency weakening.

As for individual credit institutions, the equity capital of 15 banks out of the top 100 may shrink (in response to the rising exchange rate of the US dollar) by Rb143bn. It is noteworthy that one of these banks belongs to the 'systemically important' category.

The risks of past-due bank loan growth

The second important channel whereby the economic downturn will influence the banking system is that of past-due bank loan growth. Banks will have to create provisions for losses at their own expense. Over the past 7 years, the share of past due loans has been changing quite significantly (Fig. 2), and it was especially high in the segment of loans to individual entrepreneurs (IE).

Judging by the movement patterns of past due retail loans and loans issued to individual entrepreneurs, these two indices can be expected to jump at least 2 times, if we give consideration to the significant income losses and business collapses suffered by certain population groups. This situation resembles the crisis period 2014–2015, when past due debts on retail loans doubled (in the case of individual entrepreneurs, the growth was much higher, but their share in banks' balance sheets was extremely small, about 0.6%). Past due loans to state-owned companies were less affected by the crisis, and now their amount is at its record high of the past 6 years, and so we can expect this index to further increase by 20%.

In order to accurately assess the past-due bank loan growth in the segment of loans issued to legal entities, it is worthwhile to know the by-industry distribution of banks' loan portfolios. No properly systematized data of this kind is available from open sources; however, some banks do disclose the structure of their loan portfolios in the tables attached to their IFRS statements. We manually compiled these data for the top 30 banks (by the size of their assets);¹

¹ Less the banks in the process of rehabilitation prescribed by the Bank of Russia; and Tinkoff Bank, Rossiya Bank, and Post Bank, for which no relevant data could be found.

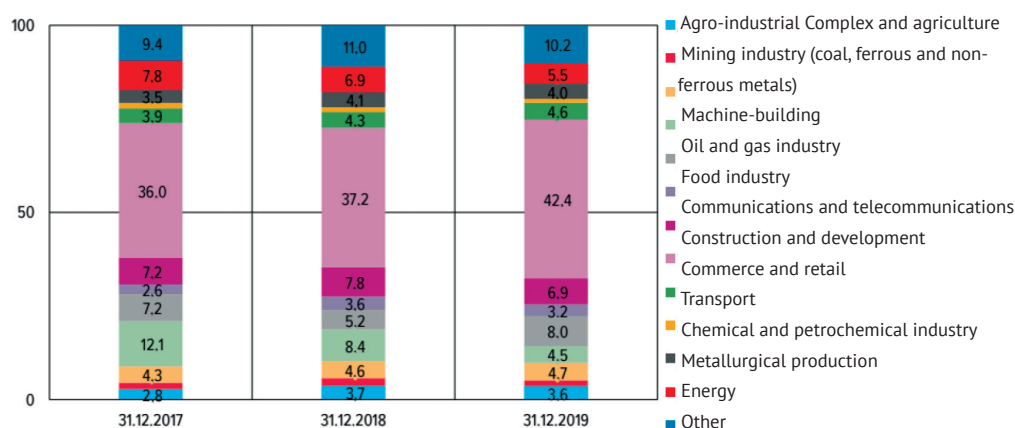


Fig. 3. The by-sector structure of bank loans to non-financial institutions in 2017–2019, %

Source: Bank of Russia.

for the other banks, we applied the averaged indicators taken from the Bank of Russia's Review of the Russian Financial Sector and Financial Instruments 2019, which shows the sectoral structure of the loan portfolio of the entire banking system (Fig. 3).

In the framework of this scenario, we assume that the past-due bank loan growth will not affect some industries that have been receiving active government support, such as transport, the oil and gas sector, and metallurgy (13.1% of the total bank loan portfolio). Agriculture (3.2%) will experience some reduction: we can expect its past due debt increase by 10%. In the other sectors, growth will amount to 50%. In qualitative terms, these assumptions are consistent with the by-industry output data for April 2020 released by Rosstat.¹ Thus, the combined growth rate coefficient of past due loans issued by banks to legal entities (derived on the basis of the loan structure across the entire banking system) will be +38.8% (Fig. 3). The use of just one starting value for the majority of banks represents an averaged forecast; however, as we have already mentioned, no data on the by-industry loan portfolio structure are available for all banks, and so we plotted a more detailed forecast only for the top 30 banks, for which data could be collected from their IFRS forms.

We also assume that banks will have to offset 5% of their new past due debt by their provisions for losses. The current term structure of banks' past due debt is not known, nor do we know how this compares with the total amount of their provisions for losses earmarked for past due loans. Consequently, when debt increases, we do not know if it grows on secured loans or on other loans, or if it has been due for 1 day or for six months, and so on. Thus, this increase will include the provisions for possible losses arising both from new debt on loans and from old past due debt, for which the delay periods have increased.

As a result, the following starting values have been applied to plot the expected past due debt changes in the balance sheets of Russian banks:

- past due loans issued to individual entrepreneurs and retail loans: +100%;²
- past due loans issued to state-owned companies: +20%;

1 URL: <https://www.gks.ru/folder/313/document/86353>

2 Hereinafter - relative to the corresponding indices in the bank balance sheets as of March 1, 2020.

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- past due debt on loans issued to resident companies is calculated on the basis of the by-industry loan portfolio structure (the banks for which no loan portfolio structure data are available: +38.8%);
- provisions should be made for the losses arising from 75% of total new past due debt.

Table 5 shows the forecast changes in the balance sheet total of the entire banking sector in response to the movement of the forex rate and stock quotes.

Table 5

The past due debt forecast for the entire banking sector, billions of rubles

	01.03.2020	Forecast
Total assets	83 998.8	82 512.6
Bank loans	7 950.9	7 950.9
– past due	129.5	129.5
– reserve growth		0.0
Corporate loans	36 426.0	36 425.97
– past due	2 881.5	3 798.4
– reserve growth		687.7
Loans to resident legal entities	29 304.4	29 304.4
– past due	2 538.7	3 451.4
– reserve growth		684.6
Loans to non-resident legal entities	4 252.8	4 252.8
– past due	322.1	322.1
– reserve growth		0.0
Loans to state-owned corporations – legal entities	1 310.2	1 310.2
– past due	20.8	24.9
– reserve growth		3.1
Loans to individual entrepreneurs	518.2	518.2
– past due	60.1	120.2
– reserve growth		45.1
Retail loans	17 521.4	17 521.4
– past due	1 004.6	2 009.2
– reserve growth		753.4
Other assets	21 582.4	20 096.2
Liabilities	74 525.0	74 525.0
Equity capital	9 473.8	7 987.6
– capital change		-1 486.22
- change in capital-to-asset ratio, %		-1.77%
- change in equity-capital ratio, %		-15.69%
– total reserve growth		1 486.22

To offset the past due debt growth in accordance with our forecast, the banking sector will have to create additional reserves (provisions for losses) in the amount of Rb1.49 trillion, which is equivalent to a reduction of equity capital across the entire banking sector by 15.69%, or 1.77% in terms to capital-to-asset ratio.

General forecast

The calculations discussed above demonstrate separately the changes that occur in banks' balance sheets, through the channel of forex and stock market fluctuations and that of past due debt growth. By summarizing these effects, we

find that the banking system's equity capital reduction amounts to **Rb 1 350.2bn** ($-1\,486.22 + 136.02$).

However, the regulatory capital change is a more interesting phenomenon than the equity capital change, as well as the resulting changes in the capital adequacy ratios of individual banks. It is not possible to calculate the amount of regulatory capital by taking the relevant data directly from the balance sheets of credit institutions (Reporting Form 101) available at the Bank of Russia's official website, and then applying those data in accordance with Form 123 of 'Calculation of Equity Capital ('Basel III)'; or, to calculate capital adequacy ratio H1.0, which is the ratio between regulatory capital and assets weighted by risk levels. Therefore, it is the equity capital change that will serve as the main forecast tool in our case, because it can be directly calculated on the basis of bank balance sheet data, and because it is sufficiently illustrative of the financial situation of each bank.¹

It can be assumed that in response to the increasing past due debt and the necessity to create provisions for the resulting losses by earmarking part of equity capital, regulatory capital will shrink on average by the same amount as equity capital. Moreover, if as of March 1, 2020, we have information on the amount of regulatory capital (Form 123) and capital adequacy ratio H1.0 (Form 135 'Information on Mandatory Ratios'), it becomes possible to calculate the value of assets weighted by risk levels at that particular moment.

To calculate a risk-weighted assets floor, the ratio between assets (less provisions for losses in our forecast) and assets less provisions for losses as of as of March 1, 2020 can be applied as an adjustment coefficient, by which the risk-weighted assets as of March 1, 2020 are multiplied. The motivation behind the use of this 'floor' is that we cannot recalculate the risks that have increased in response to the past due debt growth and once again weigh the assets according to those increased risks. Nevertheless, such an assessment, together with the forecast equity capital changes, provide us with some information concerning the bank's financial situation.

By way of summing up, we can conclude that, according to our forecast, several banks in the top 100 are going to lose a significant portion of their capital. Based on a certain 'upper estimate' of regulatory capital, we found that the capital of 17 banks (including 2 in the 'systemically important' category) will either dive below capital adequacy ratio of H1.0, or come close to it.


The total need for additional capitalization of these 17 banks may amount to **Rb335bn**, including additional capitalization of state-owned banks to the value of **Rb241bn**.

It should be pointed out once again that when risk-weighted assets are recalculated, the real H1.0 values may turn out to be significantly lower, because the Bank of Russia weighs assets by applying its own real risk ratios, which cannot be recalculated within the framework of a forecast study. Thus, the potential needs of banks for additional capitalization may become slightly higher.

1 On January 1, 2019, new international financial reporting standards, IFRS 9, were adopted, which forced many banks to re-calculate their balance sheets. However, the principles that banks should be guided by when filling out Form 123, 'Calculation of Equity Capital (Basel III)', remained the same. For this reason, a number of differences arise between the amounts of capital entered into these two forms. After a change in the methodology, the equity capital of some banks halved. (URL: <https://www.vedomosti.ru/finance/articles/2019/09/20/811703-kapital-rosselhozbanka>).

1. Assessment Of The Situation in The Banking Sector

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2. THE ANALYSIS OF THE RUSSIAN MONEY MARKET IN THE WAKE OF THE EPIDEMIOLOGICAL CRISIS

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In March – the first decade of May 2020, amidst the acute phase of the epidemiological crisis the banking sector's need in liquid funds increased considerably. It was justified by growth in the money supply volume, credit institutions' correspondent account balances, as well as commercial banks' mandatory reserves. However, as the economic situation commenced to stabilize from the second decade of May and the uncertainties were clearing up, the liquidity surplus began to grow again. To stabilize further the market, the Central Bank of Russia supplemented the list of instruments of ruble liquidity provision to credit institutions with one-month and one-year REPO auctions, however, amid the recovery of the level of liquidity they are not much in demand yet.

In March-April 2020, amid the outbreak of the epidemic the financial stability of the Russian economy was endangered. Increased uncertainties formed risks to the money market. On the back of economic entities' higher demand in liquid funds, the banking sector's liquid resources decreased dramatically. Accordingly, to underpin the financial stability the Central Bank of Russia utilized instruments aimed at providing the banking sector with additional ruble and foreign currency funds.

In March – the first decade of May 2020, the value of the banking sector's structural liquidity surplus¹ fell from Rb 3.8 trillion on March 1, 2020 to Rb 1.2 trillion (Fig. 1). First, a decrease in liquidity surplus was justified by growth in money supply owing to high demand in cash funds on the part of households amid the uncertainties caused by the coronavirus pandemic. In March 2020, the money supply value grew by Rb 0.7 trillion, the maximum increase (Rb 0.2 trillion) took place on the first day (March 27, 2020) of the unscheduled general holidays. It is noteworthy that money supply growth rates in March 2020 on the previous month turned out to be much higher than this indicator's monthly average growth rates over the past five years (6.9% against 0.8%). Despite some slowdown, in April 2020 money supply growth remained high and was equal to Rb 0.6 trillion or 5.1% on March 2020. During the past five years, money supply growth rates in April were on average somewhat lower and amounted to 3.1%. In May 2020, demand on cash increased by another Rb 0.3 trillion (2.3% on April 2020), a considerable increase as compared with the value of -Rb 0.07 trillion typical of May (in the past five years average money supply growth rates in May as compared with April amounted to -0.8%).

1 By definition of the Central Bank of Russia, the level of structural liquidity deficit/surplus is the difference between the debt on the Central Bank of Russia's refinancing transactions and absorbing operations. The banking sector's structural liquidity deficit is a situation characterized by credit institution's strong need in attraction of liquidity by means of operations with the Central Bank of Russia. The opposite situation – liquidity structural surplus – is credit institutions' strong need in placing funds with the Central Bank of Russia.

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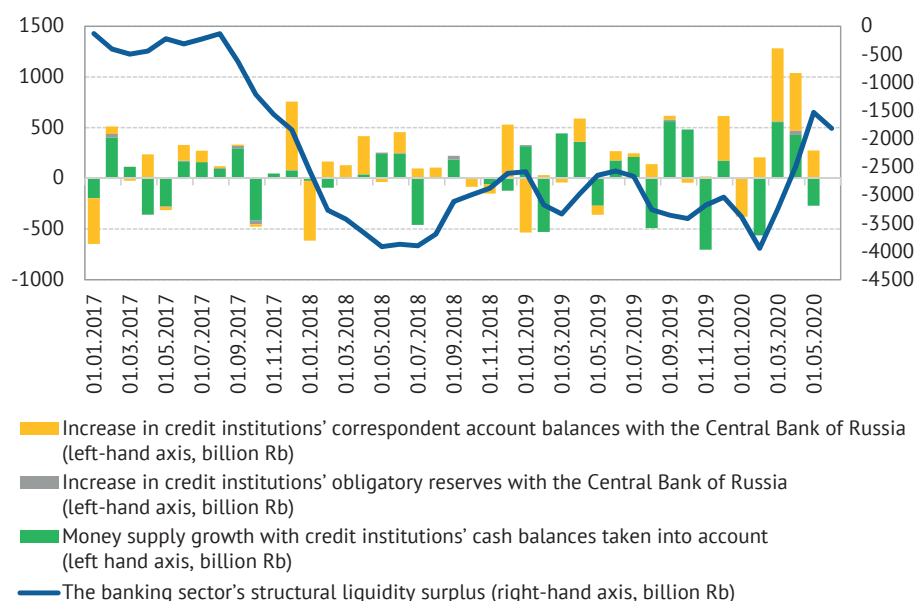


Fig. 1. The banking sector's structural liquidity surplus, money supply growth with credit institutions' cash balances taken into account, an increase in commercial banks' obligatory reserves with the Central Bank of Russia

Source: The Central Bank of Russia.

Second, a decrease in the liquidity surplus of the banking sector was driven by growth in credit institutions' correspondent account balances owing to a number of banks' efforts to form provisions against the unexpected outflow of customers' funds because of growing uncertainties. So, in March credit institutions' correspondent account balances with the Central Bank of Russia increased by 26.9% to Rb 2.6 trillion, while in April, by 16.3% to Rb 3.0 trillion. In May, credit institutions' correspondent account balances decreased by 8.9% to Rb 2.8 trillion, while in June stabilized on average at the level of around Rb 2.5 trillion.

Third, a decrease in the liquidity surplus was also driven by growth in commercial banks' obligatory reserves on the back of foreign currency revaluation of credit institutions' liabilities amid the weakening of the Russian ruble's exchange rate. This effect materialized in April when banks' obligatory reserves increased by 6.9% to Rb 0.7 trillion. In March and May 2020, the growth was moderate and amounted to 1.5% and 1%, respectively. Note that in the second decade of May as the uncertainties started to clear up in the economy, the volume of structural liquidity surplus stabilized and was equal to Rb 2.1 trillion by June 22.

Within the limits of the inflation targeting regime and the relevant interest rate policy, the Russian Central Bank has achieved its operation goal of retaining the money market's short-term rates within the interest rate band and bringing them closer to the key interest rate by means of the liquidity provision and liquidity absorption instruments. Incidentally, a dramatic drop in the liquidity surplus seen in March-April 2020 affected all money market interest rates and the regulator had to take measures to stabilize the situation.

So, amid the decreasing liquidity surplus the Central Bank of Russia had to resume the REPO "fine adjustment" auctions – the last such auction was held in February 2017 – to provide liquidity to the banking sector. In March-May 2020, the Russian Central Bank held eleven such auctions with an average volume of funds provided within the framework of a single auction amounting to Rb 406bn. High demand on such operations was observed till the first decade of May 2020 included, but then owing to the stabilization of the money market

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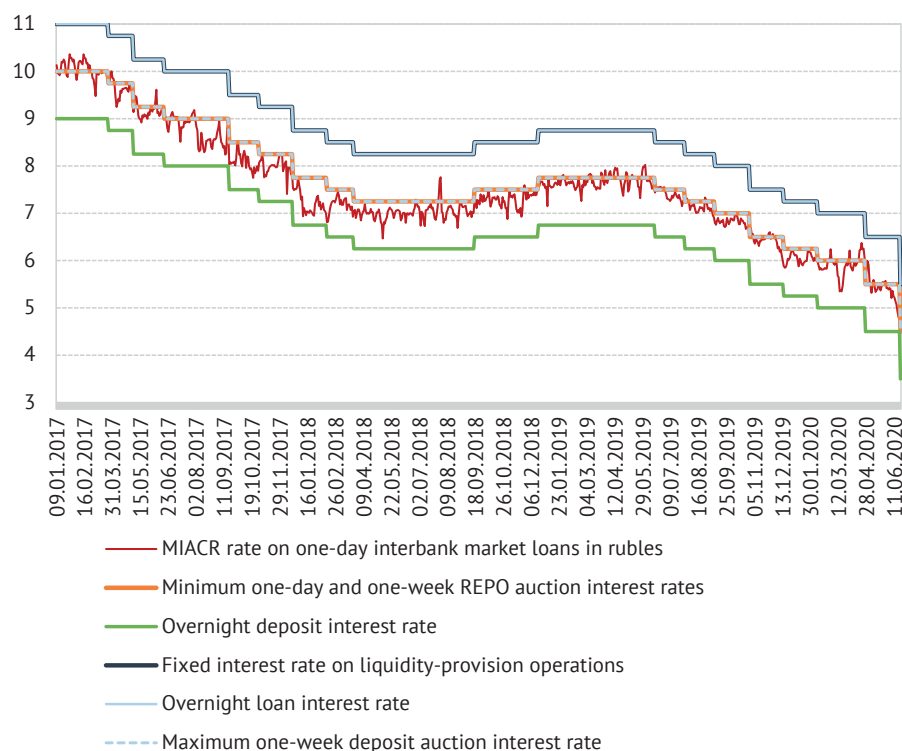


Fig. 2. The Russian Central Bank's interest rate band and the dynamics of the interbank market's interest rates.

Source: The Central Bank of Russia.

situation fine adjustment operations on provision of liquidity to the banking sector for the term of one week were no longer held.

Because of banks' increased need in liquid resources, the Russian Central Bank reduced as well the volume of placement of the Central Bank of Russia's coupon bonds (CBCBR). If in March and April 2020 the placed volume of CBCBR amounted to Rb 490.4bn and Rb 582.0bn, respectively (Rb 500bn each in March and April 2019), in May the volume of the placed CBCBR turned out to be zero (Rb 600bn in May 2019). So, on May 12 the auction on placement of the 33rd issue of CBCBR was not held. Also, the regulator took a decision not to hold the auction on placement of the 32nd issue of CBCBR until the redemption of the 31st issue. As a result, in March-May 2020 the volume of commercial banks' investments in CBCBR fell by 41% to Rb 1.1 trillion.

It is noteworthy that on the back of growing uncertainties on the money market, on some days short-term money market rates surpassed the key interest rate. The peak value of the spread took place at the end of April and amounted to 0.5 p.p. However, the regulator took measures which stabilized the situation and reduced the extent of the deviation of the money market rates from the key interest rate (Fig. 2). However, in the second decade of June 2020 as the day of the meeting of the Board of Directors of the Central Bank of Russia on the key interest rate was getting closer, the negative spread between the one-day MIACR money market rate and the key interest rate increased on average to 0.3 p.p. as a result of money market participants' expectations of a substantial reduction of the key interest rate. It is to be noted that market expectations proved true: on June 19, the key interest rate was cut by 1 p.p. to its historical minimum of 4.5% per annum.

In May 2020, the Central Bank of Russia supplemented the list of ruble liquidity provision instruments to credit institutions with the one-month and

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one-year REPO auctions. Fewer types of securities are accepted as collateral for such operations as compared with shorter-term REPO operations. The security includes federal loan bonds from the Lombard list, as well as bonds issued by constituent entities of the Russian Federation and municipal entities with the highest credit rating on the national rating scale. The first such 28-day auction with the limit of Rb 500bn scheduled for May 25, 2020 was declared void. Amid the recovery of the level of liquidity of the banking sector, banks did not take interest in a long-term REPO. As the banking sector's liquidity surplus was growing, in June there was actually no demand in long-term refinancing, either. So, based on the results of a one-year REPO auction held on June 22, demand was equal to the mere Rb 5.1bn with the limit of Rb 400bn, while a similar 29-day REPO auction was declared void because of lack of bids.

Overall, the money market situation amid the epidemiological crisis is very much different from the currency crisis late in 2014 – early in 2015 when on the back of the aggravation of the structural liquidity deficit the banking sector's debt to the Russian Central Bank exceeded twofold the peak values of the crisis period of 2009, having increased by 110% over 12 months and amounted to Rb 9.3 trillion as of January 1, 2015.

Also, the substantial difference between the crisis episodes consists in the banking sector's need in foreign currency funds. So, in March-May 2020 the banking sector's foreign currency liquidity remained stable. The required level of foreign currency liquidity was underpinned by foreign currency sales carried out by the Central Bank of Russia within the limits of the fiscal rule (Rb 0.7 trillion in March-May 2020), additional sales of foreign currency with the Urals oil price falling below \$25 a barrel, as well as the decreased dedollarization of the economy in the past few years. As result, banks did not take interest in the Central Bank of Russia's foreign currency liquidity provision instruments. It is noteworthy that late in 2014 and early in 2015 amid the panic on the foreign currency market banks were actively using the foreign currency REPO auctions, the debt on which amounted to \$33.9bn.

The important difference of the current crisis from the foreign currency crisis late in 2014 and early in 2015 consists in the behavior of the short-term money market interest rate. So, in December 2014 the one-day MIACR rate repeatedly exceeded the limits of the interest rate band and surpassed on some days the key interest rate by 1.1–11.3 p.p. In such conditions, due to the volatility on the money market and the forex market it was necessary to increase urgently the key rate from 10.5% to 17% annually. During the current crisis, the money market interest rate did not exceed the key rate by more than 0.5 p.p., while the situation in the economy and on the financial market permitted to moderate considerably the monetary policy.

So, the regulator's instruments aimed at stabilizing the financial market situation and facilitating the required level of liquidity in the banking sector in spring 2020 proved to be effective and made it feasible to retain the short-term money market rate close to the key interest rate. The credit for passing successfully through the crisis period is owed primarily to the inflation rate targeting regime and the fiscal rule which prevented the substantial depreciation of the ruble, the accelerating inflation rate and the panic on the market. Substantial reduction of the risks to the financial stability observed in the second half of May-June 2020 owing to the easing of the lockdown restrictions across the world, expectations of gradual recovery of economic activities and some appreciation of the ruble on the back of improvement of trade conditions will facilitate gradual return of liquidity surplus to the previous level provided that new risks fail to materialize. ▀

3. REGIONS' BUDGETS IN JANUARY-MAY 2020: FISCAL TRANSFERS STABILIZE THE SITUATION

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In May 2020, regions' own tax and non-tax consolidated budget revenues decreased by 19.8% as compared with May 2019; this is a continuation to a large extent of the April trends when regions' budget revenues were hit hard by the crisis and restrictive measures. At the same time, financial injections on the part of the federal center justified both by an increase in the planned volumes of the financial aid to regions and more rhythmical provision thereof permitted to reduce the risk of reduction of current budget revenues of less well-off regions.

Early this year, the upward trend of differentiation of fiscal capacity observed in 2017–2019 between better-off regions and worse-off regions (tax and non-tax revenues of better-off regions grew faster) changed. Based on the results of January–April 2020, the growth rates of tax and non-tax revenues of worse-off constituent entities turned out to be higher than those of the groups of better-off ones.

Despite the slowdown of budget revenue growth, in January–May 2020 regional budget expenditures increased by 18.7% on the relevant period of 2019 (by 19.6% in May, which factor is a continuation of the April trends and related with the implementation of the package of anti-crisis measures. A shift in the expenditure pattern towards investments was justified by active application of budget funds for these purposes.

The Revenues

According to the preliminary data on the administration of consolidated budgets of constituent entities of the Russian Federation in January–May 2020, the overall volume of revenues of regional and local budgets decreased by 0.2% on the same period of 2019, a better result as compared with the index of January–April 2020 (a drop of 1.2%). But if in April a drop in regions' budget revenues was equal to 20.9% as compared with April 2019, in May 2020 the revenues increased, on the contrary, by 4.2% on May 2019. However, this growth was not a bounce after the April collapse and recovery of the economy: regions' tax and non-tax revenues amounting to 81.5% of the overall revenues volume of constituent entities' consolidated budgets decreased by 19.8% in May, a substantial drop, too, but less than in April (29.3%). Unexpected growth in May was entirely driven by inter-budget transfers, which increased threefold that month as compared with May 2019 and ensured overall growth of 54.2% thereof based on the results of January–May. In May, all types of inter-budget transfers saw upward trends: subsidies (+42% on May 2019), subventions (+27%), other inter-budget transfers (+86%), to say nothing of bailouts which increased 12-fold (+1162%).

As in April, the reduction of tax revenues was driven in May mainly by the corporate profit tax which revenues fell by 41.3% on May 2019, while based on the results of January–May 2020 its revenues decreased by 15.8% on the relevant period of the previous year. Among other large revenue sources, a downward trend was observed with the personal income tax (-13.9% on May 2019; growth of -0.8% in January–May 2020 on the relevant period of 2019) and

3. Regions' Budgets in January-May 2020: Fiscal Transfers Stabilize

excises (-8.3% in May; +3.9% for January-May 2020). In May, the total tax (+12.6% in May; -12.8% for January-May 2020) and property tax (+3.5% in May; -7.8% for January-May 2020) saw positive growth. So, based on the results of January-May 2020 only the excises retained an upward trend.

Based on the results of January-May 2020, owing to fiscal transfers most constituent entities of the Russian Federation (59) saw an upward budget revenues trend. As regards the received transfers, the upward trend leaders were the Chukotka Autonomous Region (growth by 36.0% on the relevant period of 2019), the Republic of North Ossetia-Alania (+30.6%) and the Republic of Tyva (+30.0%). The downward trend leaders were the Yamal-Nenets Autonomous Region (-20.9%), the Nenets Autonomous Region (-14.7%) and the Tyumen Region (-14.6%).

Among Federal Districts, the most favorable situation as regards budget revenues growth was observed with the North Caucasian Federal District (+20.8%) where all seven constituent entities saw an upward revenues trend, while six of them (except for the Stavropol Territory) maintained budget revenue growth rates of over 15% for five months of 2020. The situation was pretty good in the Far Eastern Federal District, too (+11.4%), where growth was observed in 10 out of 11 constituent entities (except for the Zabaikalye Territory). The downward budget revenues trend leaders were the Central Federal District (-4.0%) and the North-Western Federal District (-4.0%). Note, in the latter most constituent entities (7 out of 11 constituent entities) faced a drop in budget revenues.

Based on the results of January-May 2020, out of 26 constituent entities of the Russian Federation whose budget revenues did not increase as compared with the relevant period of 2019 in 19 constituent entities the expected level of fiscal capacity exceeded 0.9, which factor permits to attribute them to the category of quite well-off constituent entities for which a moderate decrease in budget revenues is not a disaster. A current decrease in revenues with four other constituent entities can be explained by a high tax base of the previous year. The remaining three regions (the Kaliningrad Region, the Krasnodar Territory and the Republic of Udmurtia) are attributed on one side to fairly well-off regions (with fiscal capacity of minimum 0.76), while on the other side they were confronted with a relatively small drop in budget revenues (-7.6%, -1.5% and -3.8%, respectively). Accordingly, the Russian Government has succeeded so far in preventing the decline of budget revenues of financially weak regions.

Based on the results of the beginning of 2020, it can be cautiously stated that the upward trend of the differentiation of fiscal capacity between better-off regions and worse-off regions observed in 2017–2019 changed.¹ So, having divided the regions into three groups – better-off regions (13 non-subsidized constituent entities of the Russian Federation whose expected level of fiscal capacity exceeded 1.0 in 2019), well-off regions (41 regions with the relevant level of fiscal capacity being in the range of 0.6–1.0 before the adjustment) and worse-off regions (31 regions with the level of fiscal capacity of less than 0.6 before the adjustment), it can be pointed out that in the specified period higher growth rates of tax and non-tax consolidated budget revenues were observed with the group of better-off regions. According to the results of January-April

¹ The level of fiscal capacity of constituent entities of the Russian Federation is determined in conformity with the methods approved by Resolution No.670 of November 22, 2004 of the Government of the Russian Federation "On Allocation of Subsidies on Adjustment of Fiscal Capacity of Constituent Entities of the Russian Federation."

2020, the situation changed: tax and non-tax budget revenue growth rates of better-off regions, well-off regions and worse-off regions amounted to 95.0%, 90.5% and 100.6%, respectively.

The Expenditures

In January-May 2020, the RF constituent entities' consolidated budget expenditures increased by 18.7% on the relevant period of 2019, while in May, by 19.6%. A high level of expenditures in May represents a continuation of the April trend and is related mainly to the implementation of the package of anti-crisis measures.

Positive growth in expenditures was observed with 84 regions with the Kaliningrad Region where it was negative (-5.4%) being the only exception. Expenditure growth leaders were the Republic of Tatarstan (-46.4%), Moscow (-38.7%) and the Republic of Adygea (-31.7%).

Based on the results of January-May 2020, the earlier emerged upward trend of capital expenditures on state (municipal) real property projects still prevails in the pattern of budget expenditures; such expenditures increased from 5.6% in January-May 2019 to 6.8% in the same period of 2020 owing to a faster disbursement of budget funds on investments as compared with the previous year.

Among other changes in the pattern of budget expenditures, there is growth in expenditures on purchasing of goods and fulfillment of jobs and services for state (municipal) needs and the reduction of expenditures on public (municipal) debt servicing.

The Fiscal Balance and Public Debt

Higher growth rates of regions' consolidated budget expenditures as compared to the revenues are drivers of regions' growth in the public debt which was equal to Rb 2.1 trillion as of June 1, 2020, an increase of 3.9% as compared with June 1, 2019.¹ RF constituent entities' average debt burden increased from 21.8% late in May 2019 to 22.9% late in May 2020.² At the same time, it declined in 45 constituent entities with leaders in this respect being the Chukotka Autonomous Region (-22.2 p.p.), the Krasnodar Territory (-14.6 p.p.) and the Jewish Autonomous Region (-12.5 p.p.), while debt burden growth leaders were the regions of the Siberian Federal District: the Republic of Khakasia (+43.3 p.p.), the Tomsk Region (+20.0 p.p.) and the Republic of Tyva (+19.6 p.p.).

Additional financial support to worse-off regions had an effect on their debt burden growth rates, but could not stop growth at all: with better-off regions, well-off regions and worse-off regions it increased by 1.7 p.p., 0.7 p.p. and 0.4 p.p., respectively (having achieved the level of 10.5%, 37.9% and 44.3%, respectively). A high level of public debt exceeding 100% of the region's volume of tax and non-tax revenues is still observed with the Republic of Mordovia (214.1%) and the Republic of Khakasia (125.9%). Note, the Kostroma Region (91.7%), the Orel Region (90.4%) and the Udmurt Republic (92.5%) are not far from this level, either.

1 Due to the seasonal factor, it is not expedient to consider regions' public debt trend in the period which is not divisible by 12 months (for example, from the beginning of the year).

2 The region's debt burden is determined as the correlation between the volume of its public debt and the volume of its constituent entity's tax and non-tax budget revenues in the past 12 months.

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The pattern of regions' public debt in which public budget loans still prevail (48.2% of the total volume of the public debt) is preserved as a whole, but loans from credit institutions (within 12 months their share declined from 20.7% to 19.7%) are gradually displaced by government securities (growth from 27.1% to 29.3%) and there is a decrease (from 3.4% to 2.4%) in the share of government guarantees, too (Fig. 1).

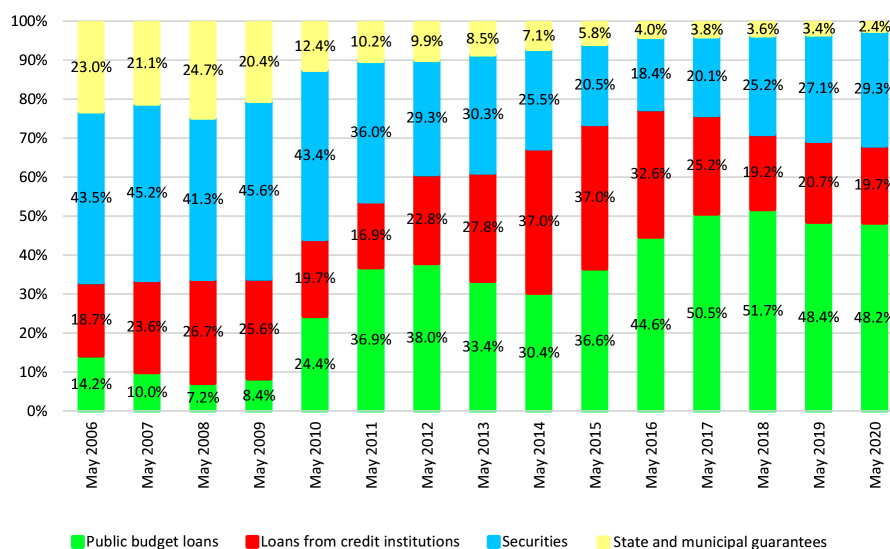


Fig. 1. The pattern of RF constituent entities' public debt, %

Source: own calculations based on the data of the Ministry of Finance of the Russian Federation and the Federal Treasury.

Overall, despite regions' some growth in the debt burden, it remains low, while additional financial aid from the federal budget facilitates in most cases the prevention of debt burden growth in worse-off constituent entities. ▀

4. SCENARIO FORECAST OF THE MAIN PARAMETERS OF MACROECONOMIC DEVELOPMENT AND THE BUDGET SPHERE OF RUSSIA FOR 2020–2022

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Development of Russian and world economies in Q2 2020 demonstrates that despite economic collapse countries are adapting to the current situation and in case there is no second wave of pandemic the crisis will take a V-type form. In particular, the oil price is unlikely to drop below \$35 per barrel and the recovery of the world economy up to the pre-crises level is expected by the end of 2022. Forecast for the Russian economy has been improving too, decrease of GDP will not exceed 6.5–7.0% in 2020, this being said, common for the Russian economy risks, major weakening of the ruble and inflation outburst are out of picture. The enlarged government budget deficit can hit 7% of GDP in 2020, however, taking into account balance brought forward on the budget accounts which can be financed, in our view, by borrowings on the ruble market of public debt without the risk to Russia's debt sustainability. In 2021, the high budget deficit will remain (no less than 5,0% of GDP), however, the debt capacity of the Russian market allows to attract the required funds to the budget. In 2021–2022, we expect the recovery of the investment activity, real income of the population, and consumer demand. Nevertheless, by the end of 2022, Russian economy will not reach the 2019 level regarding GDP, and in order to speed it up it is necessary to create conditions for further stepping up investments above the 2014–2019 levels as well as for easing budget policy within available options.

Coronavirus pandemic-induced global economic crisis surpasses in scale the Great recession of 2008–2009 and the gravity of the crisis is often compared with losses of European and US economies during the Second World War or the Great depression of 1930s. In the meantime, one can note, in our view, two ill compatible visions of the situation in 2020–2021 directly affecting the development of economic forecasts and implications for economic policy.

On the one hand, after practically half a year since the outbreak of coronavirus COVID-19 cases China and three months of strict lockdown in the majority of countries worldwide, it is impossible to reasonably argue that the pandemic has been overcome from the point of view of its impact on the

4. Scenario forecast of the main parameters of macroeconomic...

economy. Uncertainty with regard to the timeline of complete recovery of the worst-hit by pandemic industries (tourism, passenger air travel, catering, and show biz) remains exceptionally high and there are no grounds to argue that in case of epy second wave of pandemic in autumn-winter 2020–2021 new strict lockdown measures are excluded that affect economic activity of a wide range of companies and population.

On the other hand, practically all forecasts made by major international organizations, rating agencies, and banks proceed from an assumption that the acute stage of economic crisis really terminates in Q2 2020 and economic situation stabilizes in H2 2020, and national economies across the world rapidly recover in 2021. One can acknowledge that in May 2020 forecasts envisaging economic lockdown in H2 2020 practically stopped and measures of economic policy will reorient from the support of the affected industries and groups of population to providing support and incentives for business and consumer activity.

In Russia economic dynamic amid current crisis in addition to the impact of lockdown measures (downtime of industries during non-working days in April-May 2020 and stoppage of a number of industries from late March 2020), is generally determined by the change in oil prices on the global market and as in the wake of the previous 2008–2009 global crisis by a reduction in the prices and volumes of Russian exports apart from export of hydrocarbons. Having said that, factors determining external demand for all types of Russian export will significantly affect the pace of economic recovery in Russia in 2021–2022.

Important difference of the current situation in Russia from that of 2008 or 2014 consists in the absence of two key macroeconomic imbalances which determined volatility of the main economic variables amidst the transition of the economy to the new equilibrium following shocks of “overheating” of the economy and the disequilibrium ruble’s exchange rate.

In 2009, the Russian economy collapse (up to 8% of GDP) was induced by the fact that in addition to external shocks translated into oil prices steep drop and plunge in demand for Russian export, by mid-2008 the Russian economy was significantly “overheated” (according to our estimates based on the decomposition of GDP growth rates,¹ positive output gap in the Russian economy in 2007–2008 hit 8–10% of GDP). In 2013, positive output gap constituted 1.0–1.5% of GDP and under a comparable on range with 2009 shock translated from the oil prices plunge, in 2015 decrease in Russian GDP did not exceed 2.5%. By early 2020, on the contrary, output gap seen in the Russian economy was negative (around 2% of GDP). Consequently, in our view, in 2020, risks of additional decrease in GDP are not in the picture due to a cyclical economic contraction.

Previous crises in Russia manifested first of all on the financial markets which raised question about the need to adopt stabilizing measures and monetary policy adjustment. With respect to the monetary policy in order to achieve targeted inflation rate, the main short-term task consisted in stabilization of domestic currency market and restricting price growth due to transfer pricing and decline of trust in the ruble. It is important to note that currently in contrast with the 2008 and 2014 situation, there are no grounds to analyze the ruble’s exchange rate on the eve of the oil prices plunge as staying above fundamentally reasonable values. From November 2014, the Bank of Russia went on to the ruble’s free-float regime and in the course of recent years the

¹ See publication [10].

ruble's exchange rate is floating rather closely to the levels corresponding to the fundamental targeted values taking into account the situation with the balance of payments and labor productivity in the Russian Federation.¹ In 2008 and 2014, the unpegging of the rate and protection of international reserves were necessary for a rapid transition of the exchange rate to the new level, which corresponded to the change in external conditions and ensuring macroeconomic balance, however, a major weakening of the ruble became a separate negative shock for the domestic market. At present, such tuning of the exchange rate is already ensured by the current free-float regime and monetary authorities need only to resist the exchange rate "overshooting" due to potential market panic sentiment. Flexibility of the ruble's exchange rate allows the Russian economy to gradually adjust to the new external conditions avoiding destructive impact on the financial sector and inflation upsurge. Moreover, current fiscal rule in Russia automatically contributes to leveling of the effect of external economic conditions on the currency market ensuring decrease in dependence of the exchange rate from the oil prices.

Let us analyze in detail the main factors and conditions of economic development in Russia in 2020–2022 and their influence on the parameters of macroeconomic forecast.

Global oil market and the oil price dynamic

Due to continuing strong dependence of the Russian export on global prices on hydrocarbons and dependence of the domestic demand and investment activity on the revenues obtained from oil and gas exports, global hydrocarbon market conditions are paramount for Russia. Over the last 25 years, steep drop in the global oil prices time and again adversely affected the Russian economy (in 1998–1999, 2008–2009, 2014–2015). By analogy to the previous cases one can project with high grade of confidence that the main adverse effect will be in 2020, and in 2021 regardless of the oil price dynamic and established absolute level of oil prices, a relative adaptation of the economy and economic agents (including budget ones) to the new conditions will take place.

At present global crude oil consumption constitutes around 4.6 bn tons per year (100 mn barrels per day) of which about 50% of that amount (2.3 bn tones or 50 mn barrels per day) are traded on the global market. Having said that, gasoline and diesel oil account for around 56% and jet fuel – for around 7% (passenger air travel account for 80% of that volume)² in the structure of petroleum products consumption. Assuming that globally car traffic will contract by around 25% during Q2 2020, passenger air travel decline by 90% in the course of the same period and recovery of demand for petroleum products will be gradual till late 2021, then the decrease in petroleum products consumption at year-end 2020 will come to about 7%, which is tantamount to a decrease in volume demand for crude oil on the world market by 400–450 mn tones or by 9–10 mn barrels per day³ (this being said, in April-May it can hit 20–30 mn barrels per day) and in

1 Transactions on the currency market conducted by the CBR in the interests of the Finance Ministry of Russia within the fiscal rule resulted in 2018–2019 to the deviation in the ruble exchange rate from fundamental equilibrium value by at most 1.5–2 rubles per dollar, i.e. less than 5%, meanwhile before free-float rate it could hit 30–40%.

2 We do not record decline in consumption of fuel by sea vessels because in contrast to air transportation, the vast majority of vessels are engaged in cargo shipments which are not liable to restrictions.

3 According to EIA STEO forecasts for April 2020, decline in crude oil demand in April-December 2020 will hit 560 mn tons or 15.5 mn barrels per day.

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2021, taking into account available crude oil inventory the demand will drop by 100–150 mn tons (2–3 mn barrels per day)¹ compared to 2019.

OPEC+ agreement signed on April 12, 2020 envisages oil production cut by participants to the agreement by 9.7 mn bpd in May-June 2020, 7.7 mn bpd in July-December 2020, and by 5.8 mn bpd in 2021–2022. Comparing these numbers with a possible decline in crude oil demand, one can project that till late 2020 fulfillment of OPEC+ deal will not allow to fully balance demand and supply of crude oil and the deal serves mostly as a signal for the market participants and thus can stabilize prices at a rather low level.² Saudi Arabia and UAE commitments of additional cuts in crude oil production in May 2020 give grounds to assume that in the current year there will be close coordination between crude oil exporting countries and fulfillment of the deal (or conclusion of new one).

In 2021, upon recovery growth of the world economy, fulfillment of the agreement most likely will be sufficient for balancing demand and supply of crude oil (taking into account inventories) and the prices commence to grow, however, any excess of produced crude oil by participants to the deal or by third parties can again trigger price decline. And only in 2022, one may hope for oil price increase if the world economy continue sustainable growth.

Fig. 1 provides projections on crude oil prices as of May 2020.

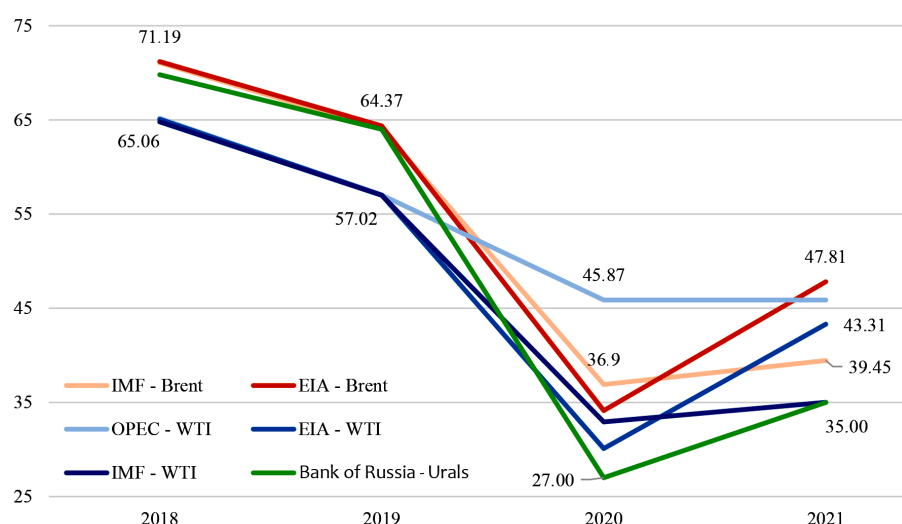


Fig. 1. Crude oil price forecast, USD/bbl

At the period-end of January-May 2020, according to Finance Ministry of Russia, the average Urals crude oil price constituted 39.1 USD/bbl.³ On the basis of our analysis of demand and supply on the global crude oil market including the parameters of OPEC+ deal and available forecasts of crude oil prices, we project that till the end of 2020 prices on Russian crude oil will remain in the range of \$30–35 per barrel.⁴ Consequently, average annual price of Urals crude oil in 2020 will come to \$35.0 per barrel (this corresponds to \$18 per barrel

1 According to EIA STEO forecasts for April 2020, in 2021 decline in demand will not exceed 15 mn tons per year or 0.4 mn barrels per day.

2 See publication [2].

3 URL: https://www.minfin.ru/ru/press-center/?id_4=37045-o_srednei_tsene_na_neft_mark_i_urals.

4 Henceforth – price of Urals crude oil.

in 1990 US dollars). According to our estimates, with such prices the foreign trade component of GDP growth in 2020 will come to -2.0 p.p.¹

The range of projected prices for 2020 is wider. Having said that, we reckon that in 2021 the risk of non-compliance with the April OPEC+ agreement is growing and crude oil supply on the global market will spike. Therefore, hereinafter we will consider the range of crude oil prices from \$35 to \$45 per barrel for 2021. Consequently, contribution of the foreign trade component into GDP growth in 2021 will constitute (-1.8)–(-1.4) p.p.

In 2022, as was noted above, we expect oil prices to go up and in our forecasts we will consider their value at \$45 per barrel (contribution of the foreign trade component in GDP growth will come to -1.3%).

Whereas in 2020–2022, by contrast with the previous cases of crude oil plunge on the global market, Russia makes commitments to cut exports of crude oil, and in view of this apart from the decline in prices and decrease in export revenues due to the price factor, it is necessary to take into consideration contraction of GDP owing to the cut in production volumes and export of crude. In 2019, Russia produced around 560 mn tons of crude oil of which domestic consumption accounted for 294 mn tons and export – 266 mn tons. In our forecast we will assume that domestic consumption of oil will stay unchanged in 2020–2022,² then taking into account Russia's commitments, export of crude oil in 2020 should amount to 206 mn tons, in 2021 – 225–235 mn tons (second figure – in case of softening parameters of the deal and lower price on oil on the global market), and in 2022 – 244 mn tons. In other words, Russia's oil production will decrease compared to 2019 in 2020 by about 10.7%, in 2021 against 2020 will increase by 3.8–6.0%, and in 2022 relative to 2021 – by 1.5–3.7% (but still will be below the 2019 level by 4.0%). Consequently, additional contraction of GDP due to this factor in 2020 can be estimated in 1.1 p.p. and GDP growth in 2021 and 2022 – by 0.35–0.5 and 0.1–0.25 p.p., respectively.

Restriction of business activity and non-working days regime

Specific influence on the economy originating from regulatory decisions taken by the government aimed at restricting the spread of coronavirus consists in the fact that pandemic-induced effects in the real sector of the economy, on labor market, in social sphere, and in the banking sector are of specific nature and cannot be treated from the point of view of common approaches in the analysis of economic and financial crises or stages of business cycle. It is also incorrect to consider bankruptcy and closure of businesses in these circumstances from the standpoint of companies or goods competitiveness or effectiveness of their activity. Similar circumstances are not recorded in modern Russian or foreign history, nevertheless, we will venture to suggest that the consequences from lockdown for the economy are close in their nature to the situation of early 1990s – transition from planned to market economy when existing economic and logistic ties broke down owing to the exit of certain subjects of economic activity from the economy. It is safe to assume that just as certain companies or types of activity “exit” common economic circulation, the lockdown measures affect the entire economy including those companies and spheres that

1 Methodology to mark out the foreign trade component in growth is described in publication [10].

2 Strictly speaking, this assumption is not quite correct because due to lockdown measures and restrictions on passenger air transportation and use of auto transport, domestic demand on petroleum products in Russia also decreased. Decrease of petroleum products output in Russia due to shutdown we will estimate in the next chapter.

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directly were not subject to strict restrictions on business activity or situated in relatively favorable from epidemiological standpoint regions. According to Blanchard and Kremer¹ the intensity and the length of downswing in industries in this case depend on the complexity of the production chain (on the number of suppliers of materials and components) and as long as amidst lockdown maximum restrictions account for services where production chains are primarily elementary and short, even in case of more intensive downswing its length is determined exclusively by the timeline of regulatory restrictions and the recovery can happen rather fast. That is why, the influence of “shutdown” on dynamics of Russian GDP, we will analyze only for March till June 2020, assuming that remaining in H2 2020 probable restrictions (most likely, in passenger air transportation, tourism, catering, and entertainment) are relatively small and can be reflected through modeling of decline in aggregate demand.

In 2021–2022, there is no need to mark out a separate effect originated from regulatory restrictions. Probable lower demand for certain goods and services is a component of demand dynamic and consumer preferences of the population.

In order to estimate Russian economy losses in 2020 due to the introduction of non-working days regime, we have used an approach based on the decomposition of series of production indexes across separate types of economic activity on trend, calendar, and random components.² Forecast values for H1 2020 were calculated for each component. Forecast for trend and random components was calculated as average for three previous months. Forecast for calendar component that reflects deviation in the number of working days in different periods (in this case in months) was based on comparison of planned number (according to production calendar for 2020) and the actual number (taking into account probable timeline of non-working days’ regime) of working days in 2020.

Forecast of calendar component takes into consideration continuous production cycles, i.e. such industries where enterprises cannot be shutdown (in particular, metallurgy and chemical production) as well as industries which produce “strategically important goods and services” (production of foodstuffs and beverages; drugs and materials used for medical purposes; petroleum products, production and supply of electricity, gas, and water), as well as differences in the level of strictness of non-working days regime in Regions of Russia. Adjustment of calendar component relative to “shutdown” level for each industry was done on the bases of real data released by Rosstat on dynamic of industrial production and output of industries for April 2020. Grouping of industries as a percentage of “shutdown” from 1 April to 11 May 2020 is demonstrated in *Table 1*.

Table 1

Grouping of industries according to percent of “shutdown” from 1 April to 11 May 2020

Industry (OKVED-2)	VAT structure	Group on level of industry shutdown
Manufacture of means of transportation, trailers and semi-trailers	0.38%	25%
Other services	39.65%	

1 See publication [1].

2 In detail, see publication [6].

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Industry (OKVED-2)	VAT structure	Group on level of industry shutdown
Agriculture, forestry, hunting, fishery, and fishing	3.94%	50%
Mining and quarrying	0.40%	
Manufacture of leather and leather products	0.04%	
Manufacture of fabricated metal products except machinery and equipment	0.71%	
Manufacture of computers, electronic and optical products	0.53%	
Manufacture of electrical equipment	0.24%	
Manufacture of furniture	0.11%	
Manufacture of other finished products	0.08%	
Construction	8.17%	
Wholesale trade	9.11%	
Retail sales	4.88%	
Transportation and storage	6.03%	
Manufacture of tobacco products	0.08%	75%
Manufacture of textile products	0.07%	
Manufacture of clothes	0.10%	
Wood processing, manufacture of wood and corkwood products, except furniture, articles made from straw and materials for basketwork	0.25%	
Coke and petroleum products	3.19%	
Manufacture of rubber and plastic goods	0.25%	
Manufacture of machinery and equipment not included in other groups	0.36%	
Maintenance and installation of machinery and equipment	0.49%	
Electricity, gas, and vapor supply; air conditioning	2.68%	
Coal production	0.63%	100%
Production of crude oil and natural gas	8.84%	
Extraction of metallic minerals	0.40%	
Provision of services in national resources extraction	0.81%	
Production of foodstuffs	1.76%	
Manufacture of paper and paper products	0.31%	
Printing industry and media duplication	0.08%	
Manufacture of chemical substances and chemical products	1.01%	
Manufacture of other non-metal mineral products	0.49%	
Steelmaking	2.21%	
Manufacture of other means of transportation and equipment	0.73%	
Water supply; wastewater disposal; waste collection and management, and pollution control	0.45%	
Production of beverages	0.29%	
Manufacture of drugs and materials used for medical purposes	0.21%	

Source: own compilation based on data released by Rosstat.

For the period from 12 to 31 May 2020 the following assumptions were made:

- construction industry operates at 100% of scheduled working days scenario;
- industries operating at 25% of scheduled working days scenario get rolling at 50% of scheduled working days scenario;
- industries operating at 50% of scheduled working days scenario get rolling at 75% of scheduled working days scenario;
- industries operating at 75% of scheduled working days scenario get rolling at 100% of scheduled working days scenario;
- industries operating at 100% of scheduled working days scenario keep rolling at 100% of scheduled working days scenario;
- industries operating at 115% of scheduled working days scenario keep rolling at 115% of scheduled working days scenario;

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- wholesale trade, retail sales, and transportation services keep rolling at 50% of scheduled working days scenario;
- businesses providing other services keep rolling at 25% of scheduled working days scenario.

In the period from 1 to 30 June 2020 the following changes were envisioned:

- wholesale trade, retail sales, and transportation services keep rolling at 75% of scheduled working days scenario;
- other services get rolling at 75% of scheduled working days scenario;
- all other industries operate at 100% of scheduled working days scenario.

Owing to this method, we have obtained the following estimates of the cost for economy originated from shutdown measures:

- Q1 – 0.37% of GDP¹;
- April – 3.78% of GDP;
- May – 2.79% of GDP;
- June – 1.22% of GDP;
- Q2 – 7.79% of GDP.

It is worth noting that cost estimates of shutdown measures take into account solely the number of working days in the period under review but not disruptions in supply chains, etc.

Development trends in the world economy

COVID-19 pandemic-induced lockdown restrictions resulted in shutdown or significant slowdown of operations of the majority of companies worldwide which led to steep reduction in economic activity. In particular, China was the first to face pandemic outbreak and introduced strict lockdown measures. Contraction of Chinese GDP in Q1 constituted nearly 7% which was the first contraction of its GDP at least from 1992 when this statistical array was launched. This being said, it is worth noting that despite the lifting of stringent lockdown measures in March and breakneck recovery of PMI index in industry from 35.7 in February to 52 in March, at April-end the index decline to 50.8, and at May-end – to 50.6. This reflects the fact that in the context of economic fallout worldwide, the recovery of each country will be restricted by the contraction of external demand.

Statistical data released by other leading world economies are also unfavorable. The US GDP contracted by 4.8% in Q1 which was the worst result from 2008. However, according to the US Congress budget office forecasts, in Q2 recession can hit 40% which will be the worst quarter from 1947. The level of unemployment in the country spiked from 3.5% in February to 14.7% in April which equals the job loss by 20.5 mn persons only in April and is comparable with the Great depression indexes. To note that around 80% of those who filed for unemployment benefits in the US nevertheless marked that they were not dismissed but furloughed which promises rapid recovery in employment after lifting of restrictions. In May, unemployment remained at the exceptionally high level of 13.3%.

Significant economic fallout is ongoing in European countries. Contraction in EU GDP hit 3.5% in Q1. This being said, GDP contraction in January March hit 3.8% for 19 countries of Eurozone. Situation in various countries as expected was uneven. According to preliminary estimates, GDP contraction in France

1 The estimate was made taking into account Rosstat real data regarding production indexes in January-March 2020, calculations according to our method demonstrated “cost” of lockdown for Q1 equaling 0.04% of GDP.

came to 5.8%, in Italy – 4.7%, in Spain – 5.2%, in Germany – 1.9%, and in Great Britain – 3%. However, in Q2 GDP contraction most likely will be double digit in the majority of EU countries.

The ongoing pandemic and introduction of new sanitary measures make to revise assessments of the global economy prospects downwards. If in early spring global GDP growth was expected to decelerate by merely 1–2 p.p., then at present experts unanimously project negative growth rates of the world economy at the year-end 2020. This being said, as was noted above these projections, firstly, proceed from relatively rapid lifting of strict restrictions on economic activity in the course of several months, and secondly, envisage absence of the second wave of pandemic in autumn-winter. In any case, it is obvious that issues facing the world are of unprecedented nature for the history of mankind after the Second world war.

Table 2 provides IMF forecasts relative to GDP dynamic of major world economies till 2021.

Table 2

Forecast of GDP dynamic of major world economic till 2021, %

Country	2019	2020	2021
USA	2.3	-5.9	4.7
Great Britain	1.4	-6.5	4.0
Germany	0.6	-7.0	5.2
France	1.3	-7.2	4.5
Italy	0.3	-9.1	4.8
Spain	2.0	-8.0	4.3
China	6.1	1.2	9.2
India	4.2	1.9	7.4
Japan	0.6	-5.2	3.0
World	2.9	-3.0	5.8

Source: IMF. URL: <https://www.imf.org/external/pubs/ft/weo/2020/01/weodata/index.aspx>.

Consequently, gradual lifting of restrictions in Q2 2020 is considered the main scenario for the development of global coronavirus situation. In this case, if to proceed from currently released forecasts of the world economy development, it is safe to project that at year-end 2020 global GDP will contract by 3.0% (meanwhile, global GDP contraction in 2009 constituted solely (-0.1%). Furthermore, it is envisioned that the spread of pandemic in any case will be contained before 2021 or by late 2020 medications will be developed and be available in sufficient volumes which pave way for widescale proactive prophylactic measures (vaccination of population) or effective treatment of COVID-19 cases which will allow to give up painful for the economy and everyday life restrictions. In that case in 2021, the rates of the global economy recovery can, in our view, hit 4.5% (IMF forecast given in Table 2 seems to be over optimistic, and it is notably brighter the majority of other forecasts). In 2022, growth rates of the world economy will return to average values seen during 2012–2019 and constitute around 3.5%.

To note, despite the fact that we consider such development scenario as the most likely, exposure of forecast change for the worse significantly outweigh its change for the better. Steep decline in the world economy this year has already been predetermined by adopted restrictive measures. However, in the event there is a need for a second round of sanitary measures, all forecasts will change for the worse including from the standpoint of timeline and pace of world economies recovery. Owing to the fact that following the 2007–2008 crisis great number of macroeconomic and financial imbalances remained in the

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world and especially in developed countries which determined high exposure to a new financial crisis throughout the entire decade and especially during recent 2–3 years. After 2010 there were several financial shocks in emerging economies (Argentina, Brazil, Turkey, and partly Russia) which raised market assessments of risk costs for all emerging economies and provoked outflow of capital. Current pandemic-induced global crisis and decline in growth rates of the world economy can trigger a new financial crisis in one or several countries which will put pressure on financial and currency markets in Russia as well as lead to additional decrease in demand for Russian export. However, the time and place (certain country) of such crisis is unpredictable, we so far do not take into consideration this potential shock in our forecasts. To note that the possibility of such shock is increasing with time and in 2021–2022, the risk will be higher than in 2020.

Decline in demand for the commodities of Russian export

Deceleration in global economic growth will lead to a notable decline in demand for a wide range of commodities of Russian export which will translate both into price drop and in contraction in volume of demand for other commodities of Russian export besides hydrocarbons. We observed similar shock in 2008–2009 in the wake of global financial and economic crisis and the scale of reduction in monetary and volumes of Russian exports can be assessed by comparison with that period. Nevertheless, let us venture that because contraction in trade and demand worldwide stem from in large measure various restrictive measures and (provisional) disruption of economic and logistic ties, the nature and timeline of such decline will be limited by the length of stringent shutdown measures in major global economic centers whereafter demand will revive. The state of the world economy prior to the outbreak of shock is an important factor determining the scale and duration of economy shrinking and, consequently, pace of revival in demand. If in 2007–2008, the global economy was in large measure “overheated” following a decade of rapid growth then during 10 years after that crisis and up to date growth rates of the world economy remained rather low, the volume of global demand and commerce (somewhat reduction of commerce commenced back in 2019 owing to trade wars launched by the US) cannot be anything but “excessive” (relative to conventional natural rate) on the eve of pandemic. That is why, the extent of recession after the first shock from restrictions on business activity will hardly increase and subsequent return to indicated “natural” demand rate will be sufficiently rapid, however hopes for demand expansion beyond the pre-crisis (2019) volumes of demand and commerce are apparently unreasonable. Therefore, the adverse impact on the Russian economy fueled by decline in demand for Russian export goods will fall primarily upon 2020, and in 2021–2022 the situation will improve and Russia exports will grow.

On the whole in 2020–2022, Russia’s current account balance will be substantially affected by fluctuations in crude oil prices, decline in global demand for basic commodities of Russian export, restrictions on the volume of oil exports within OPEC+ agreement, decline in prices on non-hydrocarbon export, the national currency decline, temporary ban on trips abroad and from

abroad, decrease in demand for import due to a reduction of real disposable income and ruble depreciation.¹

Primarily, value of hydrocarbon exports (crude, gas, LNG, and petroleum products) will plunge due to a drop both in average annual prices and volumes of shipments due to adherence to OPEC+ deal. Exports of hydrocarbons will drop to \$114bn against \$238bn in 2019. In 2021, export receipts will commence to revive and will hit about \$130bn at \$35 per barrel (scenario 1 in *Table 3*) or \$160bn at \$45 per barrel (scenario 2). In 2022, value of hydrocarbon export will increase to \$175bn.

As far as export of non-hydrocarbon commodities decline in its value will be happening on the back of contraction in shipments volumes triggered by decline in demand and by deterioration of price environment depending on the degree of the world economy collapse. Volume index of non-hydrocarbon exports in 2020 will account for about 88% relative to 2019 and value of non-hydrocarbon commodity exports will drop in 2020 to \$149bn. Hereafter, export will revive and will hit around \$170bn in 2021 and \$180bn in 2022.

At expected average annual devaluation and values of Russia's GDP drop, value of import in 2020 will also decrease by about 20%. In the end, imports of goods in 2020 will drop to \$208bn against \$254bn in 2019. So, trade commodity balance will decrease from \$164bn in 2019 to nearly \$54bn in 2020, in 2021 it will recover to \$90–105bn, and in 2022 – to \$119–128bn depending on crude oil price scenarios.

Export and import of services will decrease mainly due to a drop in international trip both made by Russians abroad and by foreign tourists coming to Russia. However, import of services will decrease more and in the end negative trade balance in services will improve from -\$36bn in 2019 to -\$14bn in 2020. In 2021 in our opinion, its value will vary in the range of -\$28bn to -\$30bn, and in 2022 – in the range of -\$32bn to -\$33bn.

Remuneration of labor balance will resonate with weakening of the national currency which will result in contraction of its deficit from -\$3.6bn in 2019 to -\$2.9bn in 2020. In 2021 and 2022, value of remuneration of labor balance will vary in the range from -\$3.0bn to -\$3.3bn.

Deficit of investment income balance as expected will decline somewhat due to the ruble weakening from -\$50bn in 2019 to -\$44bn in 2020, and in 2021–2022 will stay in the range of -\$43bn to -\$46bn. Similarly, deficit of secondary income balance will decrease from -\$10bn in 2019 to -\$9bn in 2020 and will stay approximately at the same level in 2021–2022.

Consequently, our projections demonstrate that in 2020 current account balance amounting to \$64.6bn in 2019 will significantly drop and will be negative (-\$16bn). In 2021, positive current account balance will recover at \$6–17bn, and in 2022 its recovery is projected to \$25–40bn.

Table 3

Forecast of Russia's current account balance and its components

Current account positions	2019	2020	2021		2022	
			1	2	1	2
Export of hydrocarbons, USD bn.	238	114	131	161	175	176

1 Calculations were made by methods represented in publications [7; 8; 9].

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Current account positions	2019	2020	2021		2022	
			1	2	1	2
Export of non-hydrocarbon products, quantum index, relative to 2019 level	100	87.6	93.5	93.5	99.3	99.3
Trade commodity balance	164	54	89	105	128	119
Export of goods	419	262	300	330	354	355
Import of goods	254	208	212	226	226	236
Services trade balance	-36.2	-14	-28	-30	-32	-33
Export of services	63	49	54	57	56	58
Import of services	99	63	82	88	88	92
Remuneration balance	-3.6	-2.9	-3.0	-3.2	-3.2	-3.3
Investment income balance	-49.8	-44	-43	-45	-45	-46
Rent balance	0	0	0	0	0	0
Secondary income balance	-10.2	-9	-9	-9	-9	-9
Current account	+65	-16	+6	+17	+40	+26

Source: own calculations.

Scenario forecast of Russian economy development in 2020–2022

Scenarios. Let's analyze scenarios of Russian economy development and the world economy in 2020 marked by the following parameters:

- the vast majority of COVID-19 pandemic-induced restrictions in Russia and worldwide are in force in Q1-Q2 2020, and in H2 2020 the impact of these restrictions on economic dynamic is not crucial;
- average annual on Urals crude oil in 2020 will come to \$35.0 per barrel;
- export and production of oil in Russia will drop against 2019 due to adherence to the OPEC+ agreement. Export volume will amount to 206 mn tons and oil production – 500 mn tons;
- growth rates of the world economy will come to -3.0% in 2020.

We will analyze two scenarios of 2021–2022 distinguishing by the price level on crude oil in 2021. In *scenario 1* oil prices will remain at \$35 per barrel, meanwhile Russian oil exports will grow to 235 mn tons, and in *scenario 2* oil prices will rise to \$45.0 per barrel and oil exports will amount to 225 mn tons. The remaining parameters are the same:

- there are no coronavirus pandemic-induced restrictions for economic activity relevant for the Russian and global economies;
- in 2021, growth of the global economy will stay at 4.5%, and in 2022 – 3.5%;
- in 2022, prices on Urals crude oil will hit \$45.0 per barrel;
- in 2022, oil export from Russia will amount to 244.0 mn tons.

The ruble's exchange rate. According to our estimates, fundamentally justifiable ruble's rate to the US dollar at oil price \$30–35 per barrel will vary 74–76 Rb/USD, and at \$40–45 per barrel – 70–72 Rb/USD. Additional factor affecting the situation on the domestic currency market is the sale of foreign currency from the National Wealth Fund of Russia by the Bank of Russia as per the fiscal rule (at oil prices below \$43.3 per barrel in 2020), as well as the sale of foreign currency by the Bank of Russia on behalf of the government for the payment of Sberbank package of shares to the tune of Rb2.14 trillion. Consequently, total sale of foreign currency within the fiscal rule together with additional sales can hit in 2020 \$50bn. In 2020, according to our estimates,

owing to foreign currency sales on the domestic market on behalf of the Finance Ministry of Russia, the ruble's rate can be by Rb 3–4 over the fundamental rated value amidst free-flow regime. We assess as rather low the risk of capital outflow growth from Russia on the back of increasing global uncertainty and decline of trust to emerging markets due to the spread of coronavirus. Moreover, one can expect growing attractiveness of investments in Russian bonds and corporate securities in the context of yield difference on developed markets and expected ruble's rate dynamic.

Having said that, we forecast average annual nominal ruble's rate at Rb 71.5 to USD in 2020 and related decline in real effective ruble's rate by 6.2% vis-a-vis 2019.

In 2021, in scenario 1 inasmuch as the oil price remains below the base price according the fiscal rule and foreign currency sales from the NWF will continue, we expect strengthening of the ruble's nominal rate to Rb 70.5/USD and the real effective rate – by 3.1%. In scenario 2 the ruble's nominal rate to USD will increase to Rb 70.0/USD. Insignificant difference in nominal rates between scenarios under a notable distinction in oil prices is explained by the fact that in scenario 2 we do not contemplate the CBR to carry out transactions on the currency market on behalf of the Finance Ministry of Russia and there will be no additional ruble's strengthening vis-à-vis fundamentally reasonable rate. Real effective ruble's rate in this scenario will increase by 4.0% by 2020.

In 2022, in both scenarios nominal ruble's rate to USD is expected to be close to fundamentally reasonable rate in the context of improved situation with Russia's balance of payments and will constitute Rb 69.0/USD. Real effective rate in that year will grow by 4.0% in scenario 1 and by 3.5% in scenario 2.

Inflation and the key rate. According to our estimates, expected decline in the average annual ruble's rate/USD by 10–15% will trigger accelerated inflation in 2020 due to carryover effect by not more than 1–1.5 p.p. However, steep decline in economic activity and restriction on sale of a number of goods and services will exert notable downward pressure on inflation. Consequently, one can expect that in 2020 inflation (under CPI) will again be below target (3.8%). Having said that, we expect the key rate of the Bank of Russia will not exceed 4.5% at the year-end.

In 2021, by our estimates CPI growth will decelerate to 3.0–3.5% on the back of the ruble's rate strengthening and ongoing decline in inflationary expectations. In other words, already for the fifth time in six years, inflation will stay below target but rather far from the zero level distinctive for developed economies that in our opinion gives grounds for downward revision of targeted value. We do not expect that in 2021 in the wake of a rather rapid GDP the Bank of Russia will further opt for easing of monetary policy and the key rate will stay at 4.5% per annum. In 2022, in case of ongoing monetary easing the consumer price index will not grow by more than 3.5% either.

Main macroeconomic indexes. In order to obtain forecast of GDP dynamic and other main macroeconomic parameters we will proceed from the following assumptions:

- in 2020–2022, Russian GDP structural growth rates will come to 1.5% of GDP¹;
- foreign trade component of GDP growth pertaining to terms of trade (crude oil prices), the impact of contraction of crude oil export volumes and

1 On the basis of calculations by methods provided in publication [10].

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other Russian export commodities on GDP, impact on output from economic “shutdown” in Q2 2020 are registered according to described above assumptions;

- impact of decrease in non-hydrocarbon export volumes on GDP has been adjusted by output decline in corresponding industries during non-working days;

- in 2020, in business component of GDP growth we have recognized additional contribution of consumer demand growth and output of certain industries on the basis of real data for Q1 2020 as well as the impact in H2 2020 of deferred during lockdown demand including on the back of widescale budget payments to the population;

- in 2021, additional increase in business component happens due to output recovery in all industries that underwent collapse during “shutdown” in the amount of not less than 75% of 2019 output, in 2022 – not less than 100% of 2019 level.

Projected estimates of nominal GDP, fixed investments index, real disposable income of the population, unemployment rate were made by us on the basis of medium-term macroeconomic model of Russian economy which includes structural econometric models and model of financial balances for examination of sustainability of projections of certain indexes.¹ Results of projected calculations along scenarios for 2020–2022 are given in *Table 4*.

Table 4

Forecast of main macroeconomic indexes in Russia for 2020–2022

Index	2019	2020	2021		2022	
		1, 2	1	2	1	2
Prices on Urals crude oil, USD/bbl	63.5	35.0	35.0	45.0	45.0	45.0
Real GDP growth, % per annum	1.3	-6.8	3.6	4.3	2.7	2.9
Nominal GDP, Rb trillion	110.0	99.8	106.5	111.7	118.2	119.6
GDP deflator-index, %	3.2	-2.6	2.9	7.3	8.1	4.0
Fixed investments index, %	1.7	-8.0	5.5	6.5	3.5	4.0
Change in real income of population, %	0.8	-3.5	4.0	4.5	3.0	3.5
Change in retail trade turnover, %	1.6	-7.0	4.0	5.0	3.5	4.0
Export of goods, USD bn	419	262	300	330	354	355
Import of goods, USD bn	254	208	212	226	226	236
Unemployment rate (by WLO), % EAP	4.6	6.5	5.5	5.0	4.5	4.5
Average annual ruble's rate to USD, Rb/USD	64.73	71.5	70.5	70.0	69.0	69.0
Index of real effective ruble's rate (to previous year)	102.5	93.8	103.1	104.0	104.0	103.5
CPI, % per annum	3.0	3.8	3.5	3.0	3.5	3.5
Oil production, mn t	560	500	529	519	538	538
Oil exports, mn t	266	206	235	225	244	244

Source: own calculations.

¹ Description of methodology of projection see in publications [4; 5].

Public finance. For calculation of main parameters of the federal budget an enlarged government budget for 2020–2022 along scenarios, we proceeded from the following assumptions:

1. Original nominal volume of the federal budget expenditures in 2020–2022 was determined by the adopted on March 12, 2020 the Federal Law “On Amendments into the Federal Law ‘On the Federal Budget for 2020 and 2021–2022 Planned Period’” with adjustment to the volume of interest payments on Russia's public debt proceeding from calculated in scenarios public debt.

2. Nominal volume of the enlarged government budget expenditures simulates taking into account nominal volumes of the federal budget and correlation of volumes of the federal budget and the enlarged government budget according to long-term budget forecast made by the Finance Ministry of Russia.

3. Base price of oil is taken at the current effective fiscal rule level (\$42.4 per barrel in 2020, \$43.3 per barrel in 2021, and \$44.2 per barrel in 2022). Consequently, at oil prices below base price, composition of the federal budget oil and gas revenues comprise compensation for shortfall in revenues funded with NWF according to the effective fiscal rule, and at oil prices above base price in scenario 2 in 2021–2022 – resumption of accumulation of the NWF assets.

4. The federal budget non-oil and gas revenues comprise the CBR profit from the sale to NWF of Sberbank packet of shares to the tune of Rb 1.07 trillion in 2020 and Rb 0.5 trillion in 2021.

5. The federal budget and Russia's consolidated budget expenditures are adjusted for additional expenses on three anti-crisis packages adopted in March-May 2020, on the Nationwide economic recovery plan, projected scale of budget consolidation in 2020–2022. Support of regions' budgets by public funded loans is carried out by attracting by the federal government of additional debt financing (*Table 5*).

6. In 2020, as a source of funding of enlarged government budget deficit in addition to debt financing are taken current balance of budget funds in the Federal Treasury and in credit institutions as of January 1, 2020 to the tune of Rb 2.0 trillion.

Table 5

Taxpayer support of RF economy in 2020–2022

Additional expenditures, Rb bn	2020	2021	2022
Expenses within three anti-crisis packages	1214	322	–
Extra funding within the National plan of economic recovery	223	488	–
Effect from budget consolidation at the federal budget level	-250	-450	-500
Effect from budget consolidation at other levels of budget system	-200	-200	–
Shortfall in revenues, offset by federal budget	94	12	–
Shortfall in revenues of other budgets	396	507	500
Budget loans to regional budgets	273	–	–
State guarantees	210,7	–	–

Source: own calculations.

Results of the budget system balance estimates at the levels of enlarged government and federal budget are given in *Tables 6, 7*.

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Table 6

Forecast of parameters of federal budget and enlarged government budget of Russia in 2020–2022 (Scenario 1)

	Federal budget, Rb trillion				Federal budget, % of GDP			
	2019	2020	2021	2022	2019	2020	2021	2022
Revenues, total	20.2	16.5	17.5	18.4	18.5	16.5	16.4	15.6
Oil and gas, total	7.9	4.8	5.4	5.7	7.3	4.8	5.1	4.8
Compensation for shortfall in oil and gas revenues	–	1.8	1.9	–	–	1.8	1.8	–
Non-oil and gas revenues	12.3	11.7	12.1	12.8	11.2	11.7	11.3	10.8
Expenditures	18.2	21.4	22.5	22.8	17.1	21.4	21.1	19.3
Deficit and its financing	2	-4.9	-5.0	-4.4	1.8	-4.9	-4.7	-3.7
– by debt	–	4.9	5.0	4.4	–	4.9	4.7	3.8
Transfer of funds to NWF	–	–	–	0.1	–	–	–	0.1
	Enlarged government budget, Rb trillion				Enlarged government budget, % of GDP			
	2019	2020	2021	2022	2019	2020	2021	2022
Revenues, total	39.2	34.1	36.8	40.9	35.9	34.2	34.6	34.6
Oil and gas, total	7.9	4.8	5.4	5.7	7.3	4.8	5.1	4.8
Compensation for shortfall in oil and gas revenues	–	1.8	1.9	–	–	1.8	1.8	–
Non-oil and gas revenues	31.3	29.3	31.4	35.3	28.6	29.4	29.5	29.8
Expenditures	37.1	41.3	42.2	42.4	34.0	41.4	39.6	35.9
Deficit and its financing	2.1	-7.2	-5.4	-1.5	1.9	-7.2	-5.0	-1.2
– by debt	–	5.2	5.4	1.5	–	5.2	5.0	1.3
– by remaining funds from previous years	–	2.0	–	–	–	2.0	–	–
Transfer of funds to NWF	–	–	–	-0.1	–	–	–	-0.1
Volume of funds in NWF (at year-end), USD bn	126	70.2	43.2	44.2	6.8	5.0	2.9	2.6
Public debt (at year-end)	13.0	19.0	24.3	25.5	11.8	19.0	22.8	21.6

Source: own calculations.

Table 7

Forecast of FB and EGB of Russia for 2020–2022 (Scenario 2)

	Federal budget, Rb trillion				Federal budget, % in GDP			
	2019	2020	2021	2022	2019	2020	2021	2022
Revenues, total	20.2	16.5	17.7	18.7	18.5	16.5	15.9	15.6
Oil and gas, total	7.9	4.8	5.3	5.7	7.3	4.8	4.7	4.7
Compensation for shortfall in oil and gas revenues	–	1.8	–	–	–	1.8	–	–
Non-oil and gas revenues	12.3	11.7	12.5	13.0	11.2	11.7	11.2	10.9
Expenditures	18.2	21.4	22.4	22.7	17.1	21.4	20.0	19.0
Deficit and its financing	2.0	-4.9	-4.6	-4.0	1.8	-4.9	-4.2	-3.4
– by debt	–	4.9	4.7	4.1	–	4.9	4.2	3.4
Transfer of funds to NWF	–	–	0.02	0.1	–	–	0.02	0.1
	Enlarged government budget, Rb trillion				Enlarged government budget, % of GDP			
	2019	2020	2021	2022	2019	2020	2021	2022
Revenues, total	39.2	34.1	37.6	41.3	35.9	34.2	33.6	34.6
Oil and gas, total	7.9	4.8	5.3	5.7	7.3	4.8	4.7	4.7
Compensation for shortfall in oil and gas revenues	–	1.8	–	–	–	1.8	–	–
Non-oil and gas revenues	31.3	29.3	32.3	35.7	28.6	29.4	28.9	29.8
Expenditures	37.1	41.3	42.2	42.1	34.0	41.4	37.8	35.2
Deficit and its financing	2.1	-7.2	-4.6	-0.8	1.9	-7.2	-4.1	-0.6
– by debt	–	5.2	4.6	0.8	–	5.2	4.2	0.7
– by remaining funds from previous years	–	2.0	–	–	–	2.0	–	–
Transfer of funds to NWF	–	–	-0.02	-0.1	–	–	-0.02	-0.1
Amount of funds in NWF (at year-end), USD bn	126	70.2	70.5	71.5	6.8	5.0	4.4	4.1
Public debt (at year-end)	13.0	19.0	23.4	24.1	11.8	19.0	20.9	20.1

Source: own calculations.

Conclusions and economic policy proposals

Unfolding crisis situation in Russian economy in Q2 2020 induced by the introduction of restrictive measures, plunge in oil prices and decrease in demand for Russian export demonstrates that the Russian economy is rather

rapidly adapting to the new circumstances of business environment which is promoted by current domestic stabilizers. They are:

1) notably decreased compared to previous years, dependence of the economy on oil price fluctuations including thanks to effective fiscal rule;

2) ruble's floating rates and consistent implementation of inflation targeting regime by the Bank of Russia;

3) traditional rigidity (regarding labor force layoffs) of the labor market – first of all, the market reacts by cutting working hours of those employed in the economy avoiding notable manifold increase in the number of unemployed;

4) targeting budget policy measures and the RF President's initiatives at maintaining income level of the population;

5) rapid return of the majority of enterprises and industries to work including worldwide despite steep recession in Q2 which gives grounds to assume demand recovery in H2 of the current year both in the country and overseas.

Cumulative action of these stabilizers allows us to revise upward the assessment of the situation development in the Russian economy compared to previously released forecasts.¹ In particular, contraction of real GDP at year end will not be over 6–7%, decrease in real income of the population – 3.5%, unemployment even at its peak (late Q2–Q3 2020) will not exceed 7.0% of economically active population. The ruble's exchange rate and consumer inflation are kept under control by the Bank of Russia. Despite monetary easing taken by the Bank of Russia (on April 27, 2020 the key rate was cut to 5.5%), still there are conditions for inflation to stay below target. Important factors of currency supply on the currency market remain currency sales within the fiscal rule and purchase by NWF of Sberbank package of shares as well as non-resident stakeholders on the Russia's public debt market.

In 2021, both scenarios envisage rapid economic growth (3.5–4.5%) which is due to a significant degree low base of 2020 and especially of Q2 2020, however, in 2022 GDP growth rates will decelerate again to below 3% per annum. Such deceleration is explained by the fact that we so far do not see reasons for revision upward of structural growth rates of the Russian economy or additional short-term factors trigger in 2022 acceleration of cyclical component of Russia's GDP. Unfortunately, neither in current versions of national priority projects nor in the Nationwide economic recovery plan we see conditions for Russian economy to hit growth rates above 3.0% per annum. Consequently, only in scenario 2 (at higher crude oil prices) by late 2022 Russia's GDP will return to the 2019 level. In scenario 1 GDP recovery to the pre-crisis level is put off to 2023, and also recovery of exports of goods and services remains in all scenarios beyond 2022.

At the same time in 2022, we expect return of fixed investments (on condition of implementation in declared volumes of national priority projects and Nationwide economic recovery plan), industrial output, and retail sales to the 2019 level. In 2022, the size of real disposable income of the population will be by 3.5–4.5% above that in 2019 (i.e. at the 2015–2016 level).

Improvement of macroeconomic parameters of the forecast allows us to revise possibilities and risks of the budget policy. In 2020, we estimated deficit of the enlarged government budget at 7.2% of GDP, however requirements in debt financing do not exceed Rb 5.2 trillion (extra Rb 0.96 trillion should be borrowed on the market for bond redemption in 2020). Taking into account our estimates of ruble's market capacity of Russian public borrowings under

1 See publication [3].

4. Scenario forecast of the main parameters of macroeconomic...

premium on OFZ against key rate at not more than 500 basis points means that this year, in the event of the deterioration of epidemiological situation or of external business environment requiring extra budget support of the economy, the RF government even without the use of NWF assets will have margin for additional borrowings worth of Rb 1.8 trillion (1.8% of GDP).

In 2021, the enlarged government budget deficit is projected at 4.5–5.5% of GDP and also can be financed from borrowing on the ruble bond market. In 2022, the federal budget deficit will stay at 4.0–4.5% of GDP, and the deficit of the enlarged government budget will contract to 0.8–1.5% of GDP. This being said, the volume of public debt will not exceed 22% of GDP, and the National Wealth Fund will be worth of 2.6–4.1% of GDP. In our opinion, under falling risks of the second wave of coronavirus pandemic pertaining to largescale lockdown measures and shutdown of production as it happened in H1 2020, one may talk of Russian budget sustainability and more active use budget policy opportunities for raising structural growth rates of the Russian economy and for stimulating economic growth at exit from the crisis. In particular, already in 2021 (for example, from H2 of the year) decisions on flat rate for insurance contributions at 22% (retaining 15% rate for SME firms for wages above minimum monthly wage). We estimate that the enlarged government budget losses resulting from this measure in 2021 will stay at 0.35% of GDP and at around of 0.5% of GDP in 2022, they can be compensated on the bond market. In 2022, we consider possible budget expenditure growth by 0.5–1.5 p.p. of GDP along such strands as increase in social support of the population (in the form of unified assistance package), healthcare (guarantee extension in medicine provision), education (raised accessibility of higher vocational education

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