

# **MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:**

TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

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## TRENDS AND CHALLENGES OF SOCIOECONOMIC DEVELOPMENT

Escalating tension and uncertainty fits well into the description of events unfolding over the past two weeks in the conventional borderland between economics and politics.

A U.S. full-fledged ban on Chinese and related companies' attempts to acquire U.S. technology assets, U.S. power ministries' calls to steer clear from doing business with IT companies from the state (China) that fails to honour the American values, have been reinforced with tough trade policies imposed on the grounds of national security. At the same time, the United States offers allowances, by lifting elevated duties on steel and aluminium exports to the United States for NATO member states that would take up the U.S. call to increase their military spending.

Many countries' concerns about impending trade wars that could lead to unforeseeable consequences for the global economy can, however, be allayed if/when Donald Trump achieves his political goal of rectifying, at least in part, the U.S.-China trade disproportion, either by reducing Chinese exports to the United States (steel exports are the first to be hit) or boosting U.S. exports to China. Natural gas is on top of the list.

The degree of conflict-driven escalation in the European market has brought natural gas on top as well. The Stockholm Arbitration Tribunal's award in a Russia-Ukraine dispute over Russian gas supplies via Ukraine, highly undesirable for Gazprom and unexpected even for Ukraine, adds more uncertainty to the future scenario of Russian gas supplies to Europe. That's not yet what can cut off the Russian company from raising funds in external markets, as evidenced by successful placement of Gazprom Eurobonds in London at the height of diplomatic spat between the UK and Russia. However, financial gains have been offset by political losses: the UK has joined the three countries opposing Gazprom gas supplies despite the fact that last winter Europe willingly confirmed the importance of the supplies. The confirmation is essential for the Russian economy. Natural gas ranks second after crude oil in Russian exports, with Europe being the key and critical market for the commodities.

Our experts consider foreign trade factors as one of the three components that determine economic growth rates with a view to assessing conditions that would enable Russia to achieve economic growth rates surpassing the worldwide average. The experts analysed Russian economic growth rates in 2017 using a method of GDP growth rate decomposition developed by the Gaidar Institute, assuming that short-term prospects of economic development would be easier to analyse by identifying sources and structure of economic growth.

In 2017, according to estimates, structural factors of production (labour, capital, total factor productivity) contributed 0.5–0.9 p.p. to GDP growth, but the contribution is declining and will continue to do so in the absence of structural reforms. On the other hand, foreign trade factors made a negative contribution (-0.9 p.p.) despite an extension of the OPEC+ output cut agreement. Lastly, the biggest contribution of 1.4–1.9 p.p. to Russian GDP growth rates came from business cycle factors and random shocks. Combining the analysis with known scenarios for macroeconomic dynamics in 2018–2020,

the authors conclude that the Russian economy is possibly entering a new cycle of economic growth.

Analysing the Russian 2017 federal budget outturn, our experts note that a combination of increased revenues (up 0.7 p.p. of GDP) and declined expenditures (down 1.3 p.p. of GDP) reduced the budget deficit to 1.4% of GDP. Furthermore, the increase in revenues was driven by higher revenues from oil and gas exports (up 0.9 p.p. of GDP) as oil and gas revenues lost 0.2 p.p. of GDP despite an increase of Rb 501bn. The overall share of oil and gas revenues of the total federal budget revenues increased to 39.6% in 2017 (compared with 36.0% in 2016). In fact, revenues increased across the budget, with most of the increase coming from a Rb 1.2 trillion rise in revenues from mineral extraction tax. Budget expenditures rose largely due to spending on 'Social Security Policy' (up more than Rb 400bn, mostly on retirement benefits) and were cut mostly due to spending on 'National Defence' (down more than Rb 900bn).

The internal public debt stood at approximately Rb 8.7 trillion (9.4% of GDP) by early this year, an increase of less than Rb 0.7 trillion in 2017. The public external debt was down \$1.4bn to \$49.8bn.

The authors as well as experts of regional budgets conclude that the 2017 federal budget outturn can be characterized as a more stable budget outturn than that of 2016.

Consolidated budget revenues of subjects of the Russian Federation increased 8.4% in 2017, showing positive dynamics in real terms for the second consecutive month. In 2017, regions' budget expenditures were slightly up as a percentage of GDP (up to 11.74% of GDP), their structure remaining unchanged compared to 2016. Regions continued to have a relatively small overall budget deficit (0.1% of GDP) as their public debt was down for the first time in nominal terms from Rb 2.35 trillion to Rb 2.31 trillion. However, a total debt accumulated by regional governments remained high for lower-budget regions.

Revenues from personal income tax continued to make the biggest contribution to regional and local budgets. Experts note that the revenues gained as little as 7.7% in 2017, whilst their growth rate surpassed considerably the inflation rate. Labour market researchers note an accelerated growth in real wages late in 2017 (up 5.9% from Q4 2016), linking it, in particular, to an increasingly noticeable shortage of labour force.

In 2017, the labour force contracted by 0.5 million of persons (down to 76.3 million of persons at the age of 15–72) following a long enough period of stabilization. That expected phenomenon was related to population ageing: the number of work-age population was on the slide. The fact that the number of labour force remained almost the same was due to economic upturn and inflow of persons from outside the labour market, including retired-age persons. The inflow stopped however.

The unemployment rate as measured by the ILO methodology hit an all-time low of 5.2%, nearing the so-called natural rate (a hypothetical rate at which unemployment is linked to market imperfection, such as job change costs, incomplete information on job vacancies, etc. rather than labour demand swings). In this context, employers will be more frequently faced with a shortage of labour force deficit, as evident by data from public employment agencies: there were 116 vacancies per 100 registered unemployed persons by the end of December 2016, whilst the number of vacancies increased to 146 by December 2017.

However, only one fourth of unemployed persons, many with low educational attainment and low skills, sought jobs via public employment agencies, but other sectors of the labour market were presumably faced with a deficit that encouraged employers to raise wages. The informal economy was faced with stagnant wages over the past few years, whilst the number of employed persons increased. The trend reversed in 2017: the number of employed persons started to decline first of all in the informal economy. Our analytics also point to Rosstat's 2017 updates to the method of calculation of indicators for the labour market. ●

## 1. RUSSIAN GDP IN 2017: IN WAIT FOR A NEW CYCLE

A.Kaukin, P.Pavlov

*Decomposition of Russian GDP growth rates has been performed to assess conditions that would enable Russia to achieve economic growth rates surpassing the worldwide average. In 2017, the contribution of fundamental factors of production (labour, capital, total factor productivity) to Russian GDP growth rates was about 0.5–0.9 p.p. On the other hand, a negative contribution of -0.8(-0.9) p.p. was made by global price environment for crude oil. In 2017, the biggest contribution of 1.4–1.9 p.p. to Russian GDP growth rates came from business cycle factors.*

Russian GDP growth rates in 2017 stood at 1.55%, according to data from Rosstat. Russia has plans to surpass the worldwide average in economic growth rates by 2020<sup>1</sup>. The IMF expects the Russian economy to grow 1.7% in 2018 and 1.5% in 2019<sup>2</sup>. The recent scenario-based forecast of the Russian Ministry of Economic Development projects a growth rate of 1.5–3.1% by 2020<sup>3</sup>.

The sources and the composition of GDP growth rates at 2017 year-end need to be analyzed to see the Russian economy's footing and the prospects of achieving target figures for economy. The Gaidar Institute for Economic Policy developed a method of GDP growth rate decomposition adapted to the Russian context<sup>4,5</sup>, breaking down growth rates into structural, foreign trade and cyclical components. The structural component describes long-term GDP growth rates and relies on fundamental factors of production, namely labour, capital, total factor productivity. The structural component can be increased through higher quality of institutions, a budget manoeuvre including more spending on education and healthcare. The foreign trade component is determined by global price movements for Russian export commodities such as crude oil, natural gas, metals, etc. The cyclical component is the sum of the business cycle component and random shocks. Business cycles tend to be interpreted as fluctuations around the economic development long-term trend<sup>6</sup>.

The previous international experience shows that the GDP composition (GDP growth rates) for the past few years of monitoring (in which decision makers and experts have principal interest) may be estimated incorrectly and needs to be adjusted when time series of macroeconomic indicators are

1 <http://kremlin.ru/events/president/news/54667>

2 <http://www.imf.org/en/Publications/WEO/Issues/2018/01/11/world-economic-outlook-update-january-2018>

3 <http://economy.gov.ru/minec/about/structure/depMacro/2017271001>

4 Sinelnikov-Murylev S., Drobyshevsky S., Kazakova M. 2014. Decomposition of Russia's GDP growth rates in 1999–2014 // *Ekonomicheskaya Politika*. №5. P. 7–37.

5 The method draws on the OECD's GDP decomposition method, see Giorno C., Richardson P., Roseveare D. and van den Noord P. 1995. Estimating Potential Output, Output Gaps and Structural Budget Balances. OECD Economics Department Working Papers. No. 152. OECD Publishing, Paris.

6 Business cycle wave boundaries are identified using historical data on GDP growth rates.

extended<sup>1,2</sup>. Therefore, it will take a few years from now for 2017 economic growth components to be estimated correctly enough. Nevertheless, approximate *interval* estimates of economic growth components for 2017 can be obtained during the running period for the purpose of economic policy planning and for the development of strategies and programmes. In doing so, scenarios for economic development over a few years to come will be wanted. Scenarios for macroeconomic dynamics based on the official forecast of the Russian Ministry of Economic Development can be used as well<sup>3</sup>. The parameters for three scenarios for a period of 2018–2020 are shown in *Table 1*.

Table 1

## MACROECONOMIC DYNAMICS SCENARIOS FOR 2018–2020

	Indicator	Year		
		2018	2019	2020
	GDP growth rate, %	2.1	2.2	2.3
Base case scenario	Labour force size, millions of persons	75.9	75.6	75.3
	Unemployment rate, %	5	4.9	4.7
	Consumer Price Index, at year end	104	104	104
	Employees' nominal gross monthly wage at organizations, roubles a month	42,522	44,783	47,279
	Fixed assets volume index*	102.4	102.7	103.0
	Urals crude oil prices (global), US\$/bbl	43.80	41.60	42.40
Target scenario	GDP growth rate, %	2.2	2.6	3.1
	Labour force size, millions of persons	75.9	75.7	75.5
	Unemployment rate, %	5	4.8	4.5
	Consumer Price Index, at year end	104	104	104
	Employees' nominal gross monthly wage at organizations, roubles a month	42,534	44,876	47,596
	Fixed assets volume index*	102.5	102.9	103.4
Conservative scenario	Urals crude oil prices (global), US\$/bbl	43.80	41.60	42.40
	GDP growth rate, %	0.8	0.9	1.5
	Labour force size, millions of persons	75.9	75.6	75.3
	Unemployment rate, %	5.2	5.2	5.1
	Consumer Price Index, at year end	104.3	104	104
	Employees' nominal gross monthly wage at organizations, roubles a month	42,223	44,029	46,185
	Fixed assets volume index*	102.0	102.0	101.9
	Urals crude oil prices (global), US\$/bbl	36.80	35.00	35.00

\* own estimates based on predicted data.

Source: Russia's Ministry of Economic Development.

A point to note is that the two (the base case and target scenarios) out of the three scenarios are alike in many ways: there are minor differences in labour force, unemployment, inflation, fixed assets and crude oil prices. The key difference is higher GDP growth rates under the target scenario (*Table 1*). The conservative scenario assumes lower crude oil prices, lower GDP growth rates coupled with a higher unemployment rate and inflation rate. Scenarios for GDP dynamics, according to projections of the Russian Ministry of Economic Development, are shown in *Fig. 1*.

1 Turner, D. et al. (2016), "An investigation into improving the real-time reliability of OECD output gap estimates", OECD Economics Department Working Papers, No. 1294, OECD Publishing, Paris.

2 Estimates need to be revised due to, among other things, the "tail wag" issue in graduated series of macroeconomic indicators that are used for the decomposition of GDP growth rates.

3 The forecast of the social and economic development of the Russian Federation for 2018 and for the planning period of 2019 and 2020. See <http://economy.gov.ru/minec/about/structure/depMacro/2017271001>

GDP growth rates for a period of 2007–2017 were decomposed based on the foregoing scenarios. Diagrams of the dynamics of structural, foreign trade and cyclical components are presented in Figs. 2–4.

A point to note is the continuing trend towards slowing structural GDP growth rates due to a decline in the number of economically active population and in the total factor productivity in the Russian economy. In addition, a negative effect of the foreign trade component has been seen since 2015 due to falling (below the multi-year average) global crude oil prices despite an extension of the OPEC output cut agreement<sup>1</sup>. Third, a movement towards a positive phase of the business cycle is emerging in 2017, according to constructed interval estimates.

Fig. 5 shows that the structural component of GDP growth rates for 2017 is estimated within a range of 0.5–0.9 p.p. The foreign trade component made a negative contribution of approximately -0.9 p.p. to growth rates in 2017. The business cycle component and random shocks are estimated within a range of 1.4–1.9 p.p.

Another point to note is that the use of parameters of various scenarios for macroeconomic dynamics for 2018–2020 leads to retrospective revaluation of the contribution of GDP growth rate components within a period of 5–7 years, with the widest range of fluctuations of estimates over the past two years. An approach that uses scenarios for macroeconomic dynamics at least over a period of up to 2024 is therefore the most correct approach. However, the forecasting time-frame ends in 2020 at the time of this article.

The decomposition shows that the actual growth of 1.55% in 2017 was

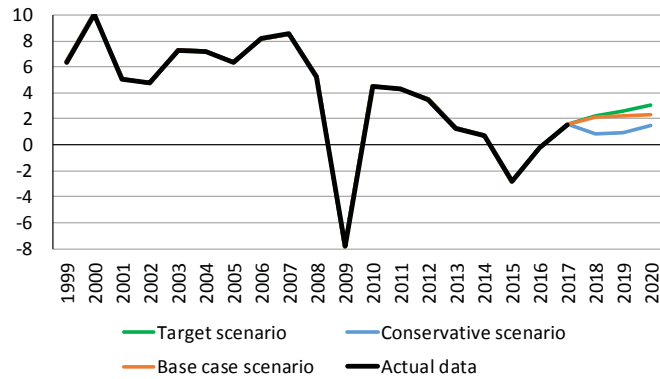


Fig. 1. GDP growth rates according to various scenarios in 2018–2020, %

Source: own estimations.

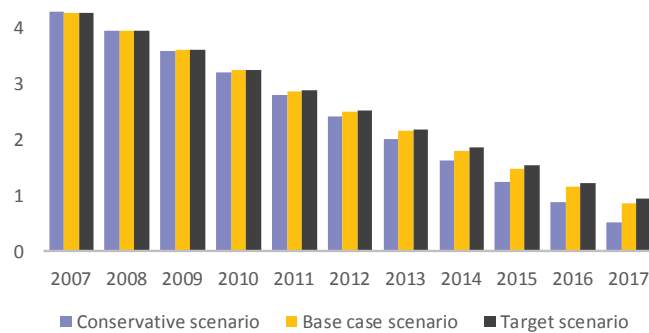


Fig. 2. Structural component of GDP growth rates in 2007–2017

Source: own estimations.

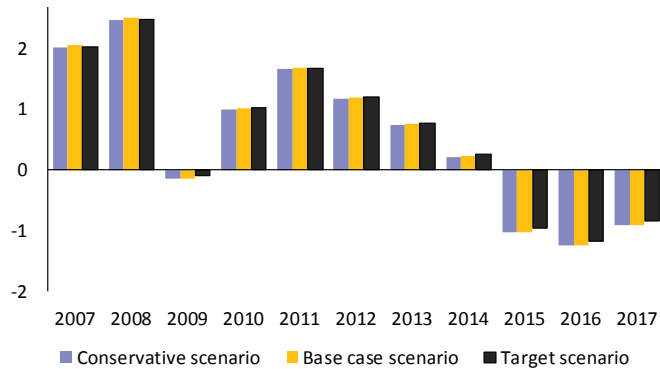


Fig. 3. Foreign trade component of GDP growth rates in 2007–2017

Source: own estimations.

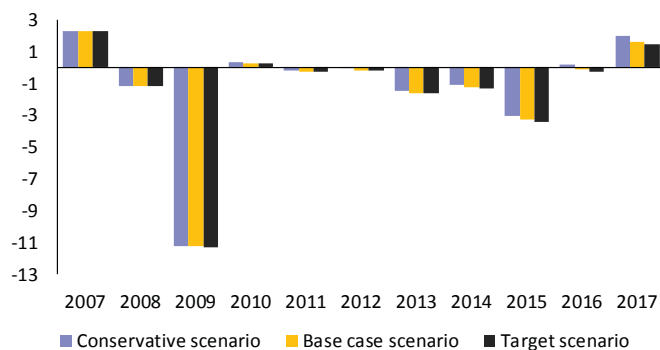


Fig. 4. Cyclical component of GDP growth rates in 2007–2017

Source: own estimations.

<sup>1</sup> In 2017, the multiyear Urals crude oil price averaged approximately \$80 a barrel.



determined by a negative effect of global prices for Russian exports and a positive effect of the structural and cyclical components of GDP growth rates<sup>1</sup>. The biggest contribution to the 2017 growth rates was made by the sum of the business cycle component and random shocks according to the three scenarios for macroeconomic dynamics, possibly giving an indication of entering a new cycle of economic growth<sup>2</sup>. The solution of the problem of achieving growth rates surpassing the worldwide average amidst adverse foreign trade context assumes structural reforms to increase the structural component of economic growth.●

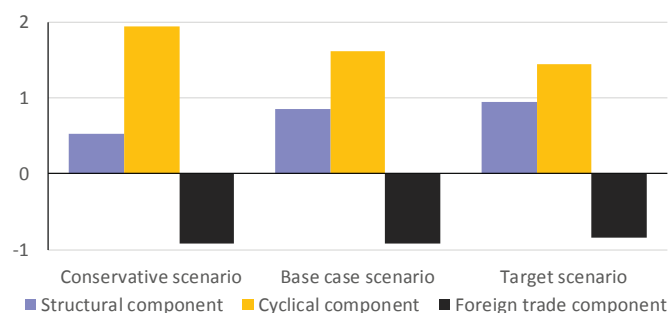


Fig. 5. Decomposition of 2017 GDP growth rates according to various macroeconomic scenarios

Source: own estimations.

1 It is not until after three years that the ratio of data on growth components can be estimated correctly enough.

2 With this approach, however, the contribution of the structural component of GDP growth rates can be underestimated due to a limited forecasting time-frame.

## 2. THE 2017 FEDERAL BUDGET: FINANCES HAVE BECOME MORE STABLE

S.Belev, T.Tischenko

*In 2017, dynamics of the federal budget's main parameters are characterized by growth of 0.7 p.p. of GDP in the revenues and a reduction of 1.3 p.p. of GDP in the expenditures as compared to the previous year. This permitted to cut the budget deficit to 1.4% of GDP. The existing global prices of oil promoted growth in tax revenues from domestic production.*

According to the updated information of the RF Treasury, in January–December 2017 the federal budget revenues increased by Rb 1,628.9bn or 0.7 p.p. of GDP (Table 1) as compared to the relevant period of the previous year on the back of growth of Rb 1,127.9bn or 0.9 p.p. of GDP in oil and gas revenues. However, proceeding from the 2017 results oil and gas revenues fell by 0.2 p.p. of GDP with growth of Rb 501.0bn as compared to the previous year.

So, in the federal budget revenues the oil and gas component increased from 36.0% in 2016 to 39.6% in 2017. In 2017, the federal budget expenditures amounted to 17.8% of GDP, that is, Rb 57.6bn or 1.3 p.p. of GDP less than in 2016. In 2017, the budget deficit decreased by 2.0 p.p. of GDP as compared to 2016, but remained at the level of 1.4% of GDP. At the same time, note that the oil and gas deficit became smaller: in 2017 its volume was equal to 7.9% of GDP; a reduction of 1.1 p.p. of GDP on the value seen in 2016.

Table 1

THE FEDERAL BUDGET'S MAIN PARAMETERS IN 2016–2017

Index	2016		2017		Change, 2017 on 2016	
	Billion Rb	% GDP	Billion Rb	% GDP	billion Rb	p.p. of GDP
<b>Revenues, including:</b>	<b>13 460.0</b>	<b>15.7</b>	<b>15 088.9</b>	<b>16.4</b>	<b>1 628.9</b>	<b>0.7</b>
– oil and gas revenues	4 844.0	5.6	5 971.9	6.5	1 127.9	0.9
– non-oil and gas revenues	8 616.0	10.1	9 117.0	9.9	501.0	-0.2
<b>Expenditures, including:</b>	<b>16 416.4</b>	<b>19.1</b>	<b>16 358.8</b>	<b>17.8</b>	<b>-57.6</b>	<b>-1.3</b>
– interest expenditures	621.3	0.7	678.8	0.7	57.5	0.0
– non-interest expenditures	15 795.1	18.4	15 680.0	17.1	-115.1	-1.3
<b>Federal budget surplus (deficit)</b>	<b>-2 956.4</b>	<b>-3.4</b>	<b>-1 269.9</b>	<b>-1.4</b>	<b>1 686.5</b>	<b>2.0</b>
Non-oil and gas deficit	-7 800.4	-9.0	-7 241.8	-7.9	558.6	1.1
GDP (in current prices, billion Rb)	85 918		92 082		-	-

Source: The RF Ministry of Finance, the Rosstat, the Federal Treasury and own calculations.

In 2017, tax revenues (Table 2) rose by Rb 2,325.7bn or 1.6 p.p. of GDP as compared to 2016. Improvement of dynamics in nominal terms and in GDP shares was registered across all the types of tax revenues, except for revenues from foreign economic activities, a decrease of 0.2 p.p. of GDP or Rb 3.3bn due to a tax maneuver in the oil and gas sector. From 1 January 2017, the base rate of the tax on oil production increased from Rb 857 to Rb 919 per ton. At the same time, the export duty rate fell from 42% to 30%. Growth

Table 2

## THE MAIN REVENUES OF THE FEDERAL BUDGET IN 2016–2017

	2016			2017			Change	
	Billion Rb	% GDP	% of the expected volume*	Billion Rb	% GDP	% of the expected volume	Billion Rb	p.p. of GDP
Total tax revenues, including	11 225.7	13.0		13551.4	14.6		2 325.7	1.6
Corporate profit tax	491.0	0.6	105.5	762.4	0.8	105.2	271.4	0.2
VAT on goods sold in the RF	2 657.4	3.1	100.5	3 069.9	3.3	100.6	412.5	0.2
VAT on goods brought in the RF	1 913.6	2.2	100.0	2 067.2	2.2	101.4	153.6	0.0
Excises on goods manufactured in the RF	632.1	0.7	101.4	909.6	1.0	100.8	277.5	0.3
Excises on goods brought in the RF	62.1	0.07	109.3	78.2	0.08	101.0	16.1	0.01
Severance tax	2 863.5	3.3	98.4	4 061.4	4.4	104.7	1 197.9	1.1
Revenues from foreign economic activities	2 606.0	3.0	104.2	2 602.7	2.8	105.3	-3.3	-0.2

\* In respect of 2016 and 2017, adjustments made in amending the Law on the Federal Budget were taken into account.

Source: The Federal Treasury (updated information) and own calculations.

in tax revenues can be largely explained by severance tax revenues which increased by 1.1% of GDP or Rb 1,197.9bn in 2017. Note that in the severance tax revenue pattern the revenues from oil production increased by 0.9 p.p. of GDP (or 43.1%), while those from natural gas production, by 0.2 p.p. (48.1%).

In 2017, tax revenues from oil and gas amounted to 103.0% of the expected volumes.

As regards federal budget non-oil and gas tax revenues which in 2017 amounted in nominal terms to 102.2% of the expected ones, the following dynamics were observed as compared to 2016:

Growth of 0.2 p.p. of GDP in corporate profit tax revenues (Rb 271.4bn) on the back of an increase of Rb 191.5bn or 0.2 p.p. of GDP in the revenues from the corporate profit tax was related to limitations introduced in 2017 on carrying forward of tax losses of previous periods in the amount of maximum 50% of the taxable profit. Taking into account the fact that previous years saw problems related to enterprises' financial performance, while in the past few years the share of loss-making enterprises was declining (from the peak 33% in 2014 to 28% in the first 11 months of 2017 as per the preliminary data of the Rosstat), the measure in question helped prevent a decrease in the tax base in 2017. This explanation is indirectly underpinned by the fact that as per the data of the Federal Tax Service major growth in corporate profit tax revenues took place with enterprises in sectors with a high competition and, consequently, lower profitability. Agriculture, hunting and forestry, as well as the services sector (mainly hotels, restaurants, wholesale and retail trade, repair of motor vehicles, motorcycles, household appliances and personal demand items) yielded 20% to 50% of growth in profit tax revenues in real terms<sup>1</sup>. Note that profit-making enterprises' revenues used for evaluation of the profit tax base amounted to 15.5% of GDP in 2017 against 15.4% of GDP in 2016. Revenues from interest income on state and municipal securities increased by Rb 66.4bn or 13.4%;

Revenues from domestic VAT and domestic excises grew 0.2 p.p. of GDP and 0.3 p.p. of GDP or Rb 412.5bn and Rb 277.5bn, respectively. Major growth in domestic excises is justified by revenues from excises on tobacco products

1 With adjustment to the CPI.

(growth of Rb 106.3bn to Rb 573.2bn), motor petrol (growth of Rb 110.7bn to Rb 135.9bn) and diesel fuel (growth of Rb 71.8bn to Rb 84.0bn);

Revenues from VAT and excises on goods brought in the RF did not change in shares of GDP, while in absolute terms they increased by Rb 154.6bn and Rb 16.1bn, respectively. No substantial changes in the revenue pattern of these taxes took place.

A considerable growth in VAT revenues as per the data of the RF Federal Tax Service was seen in the “mining of minerals” sector (over 40% in real terms). The indicators of administration quality, that is, effective VAT rates on import goods and goods for sale in the RF remained at the level seen in 2016 (6.3% and 10.8%, respectively).

Generally, in 2017 dynamics of federal budget non-oil and gas tax revenues correlated with positive economic trends underpinned by growing oil prices. Note that in formation of the 2017 draft federal budget the forecasts of tax revenues from domestic manufacturing were moderately conservative: profit tax revenues were expected to amount to Rb 659.1bn, while revenues from domestic VAT and excises, to Rb 2,960.1 and Rb 943.9bn, respectively. However, actual revenues exceeded even forecasts adjusted in amending the Law on the Federal Budget<sup>1</sup> in November 2017 in respect of all tax revenues.

As regards non-tax revenues, a reduction of 0.8 p.p. of GDP was seen in 2017 mainly due to a decrease in revenues from property or dividends on enterprises' equities (0.8 p.p. of GDP or Rb 667.6bn).

In terms of functional classification of the 2017 federal budget *expenditures* (Table 3), the following changes can be identified:

- an increase of 0.1 p.p. of GDP in expenditures on the social policy (Rb 403.6bn), primarily, due to growth of Rb 322.5bn in expenditures on pension provision;
- a decrease of 0.1 p.p. of GDP in funding in shares of GDP on “National Defense”, “Healthcare”, “National Security and Law Enforcement” and “National Economy” though growth in absolute terms was registered in respect of the last two items.

As regards sub-items of the expenditure side of the 2017 federal budget, maximum deviations in absolute and relative terms were observed in the following lines:

- a reduction of Rb 716.1bn or 24.4% in funding of the armed forces and a reduction of Rb 200.8bn or 42.6% in financing of the national defense applied research;
- growth of expenditures on road facilities (road funds) (Rb 55.9bn or 8.9%) and high-performance sport (Rb 37.1bn or 77.5%);
- a decrease of Rb 11.7bn or 20.0% in funding of general education;
- growth of Rb 27.7bn or 25.1% in budget allocations on outpatient medical care with a reduction of Rb 104.9bn or 45.4% in expenditures on in-patient medical care;
- an increase of Rb 100.8bn or 19.6% in expenditures on subsidies to adjust fiscal capacity of constituent and municipal entities of the RF.

According to the 2017 results, dynamics of cash administration of federal budget expenditures amounted to 96.1%, which is 2.6 p.p. lower than in 2016. In 2017, a lower level of cash administration of the budget was regis-

<sup>1</sup> Federal Law No.415-FZ of 19 December 2016 (version as of 14 November 2017) on the Federal Budget in 2017 and the Planned Period of 2018 and 2019.

Table 3

## FEDERAL BUDGET EXPENDITURES IN 2016–2017

	2016			2017			Change	
	Billion Rb	% of GDP	% of the actual volume	Billion Rb	% of GDP	Cash administration, %	Billion Rb	p.p. of GDP
Total expenditures, including:	16416.4	19.1	98.7	16358.8	17.8	96.1	-57.6	-1.3
Federal issues	1095.6	1.3	97.1	1179.4	1.3	94.5	83.8	0.0
National defense	3775.3	4.4	99.2	2852.8	3.1	93.2	-922.5	-1.3
National security and law enforcement	1898.7	2.2	100.4	1918.0	2.1	97.8	19.3	-0.1
National economy	2302.1	2.7	95.9	2412.7	2.6	93.5	110.6	-0.1
Housing and public utilities	72.2	0.1	95.5	118.5	0.1	94.8	46.3	0.0
Protection of the environment	63.1	0.1	99.6	92.3	0.1	99.2	29.2	0.0
Education	597.8	0.7	99.1	615.0	0.7	98.7	17.2	0.0
Culture and cinema	87.3	0.1	96.3	89.1	0.1	90.5	1.8	0.0
Healthcare	506.3	0.6	97.6	440.0	0.5	97.3	-66.3	-0.1
Social policy	4588.5	5.3	99.7	4992.1	5.4	99.2	403.6	0.1
Physical culture and sports	59.5	0.1	88.7	96.1	0.1	93.8	36.6	0.0
Mass media	76.6	0.1	99.9	83.2	0.1	99.9	6.6	0.0
State debt servicing	621.3	0.7	97.1	678.8	0.7	92.9	57.5	0.0
Inter-budget transfers	672.0	0.8	99.8	790.7	0.8	95.3	118.7	0.0

Source: The Federal Treasury and own calculations.

tered as regards most items, except for “physical culture and sports” and mass media.

In 2017, federal budget cash administration lagged behind in the following lines: “national defense applied research” (78.3%), “other issues of national security and law enforcement” (16.6%), “pre-school education” (75.9%), “other issues of physical culture and sport” (75.7%), “state debt servicing” (78.7%) and “other subsidies” (79.7%). It is to be noted that if the low level of cash administration of some sub-items of “other issues” and “foreign debt servicing” of the functional classification of expenditures can be explained by reserving of funds and appreciation of the national currency’s exchange rate, respectively, the underutilization of budget funds on R&D, national defense and pre-school education can largely be related to a substandard quality of planning and control over budget administration on the part of main administrators of budget funds.

In 2017, to make up the federal budget *deficit* the following allocations were made:

- the Reserve Fund’s balances in the amount of Rb 1,000.4bn; the Reserve Fund was abolished in compliance with the Law<sup>1</sup> on 1 February 2018;
- funds received from placement of state securities on the domestic market in the amount of Rb 1,756.4bn, which is equal to 90.0% of the planned annual volume in 2017. Note that the volume of funds spent on redemption of state securities amounted to Rb 632.9bn;
- funds received from return of public budget loans which volume in 2017 exceeded 1.6 times over the target level and amounted to Rb 333.8bn (Rb 355.0bn in 2016). At the same time, return of funds on public budget loans surpassed the target level, too, (Rb 230.6bn) to amount to Rb 317.5bn (Rb 177.1bn in 2016).

1 Federal Law No.262-FZ of 29 July 2017 on Amendment of the Budget Code of the Russian Federation as Regards Utilization of Oil and Gas Revenues of the Federal Budget.

The volume of funds allocated on repayment of the foreign debt amounted to Rb 388.4bn (Rb 106.1bn in 2016), or 97.8% of the target volume. Note that funds received from taking of loans and placement of securities on the foreign market (Rb 409.3bn against Rb 199.1bn in 2016) account for 97.4% of the target volume.

In January–December 2017, the volume of the state internal debt increased by Rb 686.2bn or 0.1 p.p. of GDP and as of 1 January 2018 amounted to Rb 8,689.6bn or 9.4% of GDP. The volume of the federal government's liabilities on state securities rose from Rb 6,100.3bn to Rb 7,247.1bn; a major increase (Rb 1,232.5bn) in the state internal debt took place by means of four issues of bonds with a permanent income yield coupon in the range of 7.0%-7.7%, while the debt on "popular" federal loan bonds amounted to Rb 39.1bn. The volume of state guarantees decreased by Rb 460.6bn to Rb 1,442.5bn (1.5% of GDP).

In January–December 2017, the volume of the state external debt in the US dollar equivalent decreased by \$1.4bn and as of 1 January 2018 amounted to \$49.8bn, including the debts on the external bond loan for the sum of \$38.2bn (growth of \$0.6bn) and RF state guarantees in foreign currency in the amount of \$10.3bn (a decrease of \$1.4bn).

As of 1 January 2018, the aggregate volume of the National Welfare Fund in the rouble equivalent amounted to Rb 3,752.9bn (4.1% of GDP), that is, Rb 1,572.8bn lower than the overall volume of sovereign funds as of the beginning of the year (as of 1 January 2017 the accumulated assets of the Reserve Fund and the National Welfare Fund (NWF) were estimated at Rb 972.1bn and Rb 4,359.1bn, respectively). According to the data of the RF Ministry of Finance<sup>1</sup>, throughout the entire period of existence of the Reserve Fund (2008–2017) its total return (% per annum) on individual foreign currency accounts with the Central Bank of Russia amounted to 1.01%, 1.29% and 2.91% on accounts in USD, euro and GBP, respectively. During the entire period of existence of the NWF, the return (% per annum) on placement of its funds in financial assets was as follows:

- on accounts in foreign currency and roubles with the Central Bank of Russia: 1.32% and 13.48%, respectively;
- on deposits with the Vneshekonombank: 2.53% in USD; in securities of Russian issuers<sup>2</sup>: from 0.6% to 11.05% (from the beginning of the transaction); on credit institutions' preferred shares: 2.1%;
- on deposits of the VTB and Gazprombank in carrying out of infrastructure projects: 10.39% (from the beginning of the transaction).

In 2017, the pattern of the Reserve Fund's and the NWF's financial resources deposited in foreign currency with the Central Bank of Russia was as follows: USD – 45%, euro – 45% and GBP – 10%. According to the stance of the RF Ministry of Finance, the goal to secure safety and stable income of the Reserve Fund and the NWF in the long-term prospect was achieved as a whole because the rate of return on the NWF's funds (13.5% in roubles) in 2008–2017 was higher than the average rate of inflation in the same period (8.2% per annum).

<sup>1</sup> The information of the official Web-site of the RF Ministry of Finance: <https://www.minfin.ru/ru/press-center/?##ixzz58uAhW8XP>

<sup>2</sup> Related to implementation of self-financing infrastructure projects approved by the RF Government.

As of the end of 2017, the volume of federal budget funds placed in deposits amounted to Rb 870.8bn (Rb 232.0bn in 2016).

Proceeding from the 2017 results, the existing situation with administration of the federal budget can be generally characterized as a more stable one as compared to 2016. ●



### 3. REGIONAL BUDGETS: POSITIVE TRENDS TO SECURE FOOTHOLD

A.Deryugin

Russia's regional governments continued to see their budget revenues increase in real terms in 2017. On the other hand, they reined in budget expenditures by entering into individual equalisation transfer agreements and restructuring their debt on federal loans, resulting in lowest possible overall budget deficit. However, a total debt accumulated by regional governments remained high for lower-budget regions.

#### Revenues

Consolidated budget revenues of subjects of the Russian Federation increased 8.4% in 2017, showing positive dynamics in real terms for the second consecutive month. An all-time high of 11.68% of GDP in five years was reached in 2017, below the value seen in the period of 2000–2012, averaging 13.3% of GDP throughout the entire period (Table 1, Fig. 1).

Table 1 shows taxes with highest growth rates, namely taxes on aggregate income (up 15.0%), property taxes (up 11.9%) as well as the corporate profit tax (up 10.9%) despite a 1 p.p. cut in the tax rate. Although revenues from excise

Table 1

CONSOLIDATED BUDGET REVENUES OF SUBJECTS OF THE RUSSIAN FEDERATION

	Revenues (in nominal terms), billions of roubles						Gains in revenues, %				
	2012	2013	2014	2015	2016	2017	2013/ 2012	2014/ 2013	2015/ 2014	2016/ 2015	2017/ 2016
Revenues, total	8 065	8 165	8 906	9 308	9 924	10 758	1.2	9.1	4.5	6.6	8.4
Tax and non-tax revenues	6 384	6 589	7 177	7 625	8 289	8 986	3.2	8.9	6.2	8.7	8.4
Tax revenues	5 800	5 967	6 493	6 925	7 574	8 205	2.9	8.8	6.7	9.4	8.3
Profit tax	1 980	1 720	1 964	2 108	2 279	2 528	-13.1	14.2	7.3	8.1	10.9
Personal income tax	2 261	2 499	2 693	2 808	3 019	3 252	10.5	7.8	4.2	7.5	7.7
Excise duties	442	491	480	487	662	612	11.2	-2.4	1.4	36.0	-7.6
Taxes on aggregate income	272	293	315	348	388	447	7.8	7.6	10.4	11.7	15.0
Property taxes	785	901	957	1 069	1 117	1 250	14.7	6.3	11.6	4.5	11.9
Non-tax revenues	584	622	685	700	715	781	6.5	10.1	2.3	2.2	9.2
Transfers from other budgets	1 624	1 515	1 671	1 617	1 578	1 703	-6.7	10.3	-3.2	-2.4	7.9
Other revenues	56	62	58	66	56	69	10.6	-6.6	15.2	-14.8	21.7
	Revenues, as a percentage of GDP						Real gains, as a percentage of GDP				
Revenues, total	11.83	11.16	11.24	11.16	11.55	11.68	-0.67	0.08	-0.08	0.39	0.13
Tax and non-tax revenues	9.37	9.01	9.06	9.14	9.65	9.76	-0.36	0.05	0.08	0.50	0.11
Tax revenues	8.51	8.16	8.20	8.30	8.82	8.91	-0.35	0.04	0.11	0.51	0.10
Profit tax	2.90	2.35	2.48	2.53	2.65	2.75	-0.55	0.13	0.05	0.13	0.09
Personal income tax	3.32	3.42	3.40	3.37	3.51	3.53	0.10	-0.02	-0.03	0.15	0.02
Excise duties	0.65	0.67	0.61	0.58	0.77	0.66	0.02	-0.07	-0.02	0.19	-0.11
Taxes on aggregate income	0.40	0.40	0.40	0.42	0.45	0.49	0.00	0.00	0.02	0.04	0.03
Property taxes	1.15	1.23	1.21	1.28	1.30	1.36	0.08	-0.02	0.07	0.02	0.06
Non-tax revenues	0.86	0.85	0.86	0.84	0.83	0.85	-0.01	0.01	-0.02	-0.01	0.02
Transfers from other budgets	2.38	2.07	2.11	1.94	1.84	1.85	-0.31	0.04	-0.17	-0.10	0.01
Other revenues	0.08	0.08	0.07	0.08	0.07	0.07	0.00	-0.01	0.01	-0.01	0.01

Sources: Russia's Federal Treasury, Gaidar Institute's estimations.



duties contracted 7.6%, the decline had no strong effect on the revenue dynamics because of their small proportion in the structure of sub-federal budgets. Despite follow-up redistribution of intergovernmental fiscal transfers, amounting to centralized one percentage point of the corporate profit tax, between regions, growth rates of transfers from budgets of other tiers came out to be 7.9%, slower than the average growth rate of consolidated budget revenues of subjects of the Russian Federation. Growth rates of personal income tax, the principal source of regional and local budget revenues, came out to be as slow as 7.7% in 2017.

Given a low inflation rate in 2017 (102.5%), all the principal sources of regional and local budget revenues, except excise duties, were driven basically by positive trends.

A point to note is higher differentiation of fiscal capacity between poorer and wealthier regions. In this context, subjects of the Russian Federation can be divided into *three groups*:

- *higher-revenue regions*: subjects of the Russian Federation with a fiscal capacity of 1.0 or less that did not receive equalisation transfers out of the federal budget in 2017<sup>1</sup>. Russia had 13 higher-revenue regions in 2017;
- *middle-revenue regions*: regions with a fiscal capacity of 0.6 to 1.0 prior to equalisation transfers in 2017 (41 regions);
- *lower-revenue regions*: regions with a fiscal capacity of less than 0.6 prior to equalisation transfers in 2017 (31 regions).

In 2017, regions' consolidated budget revenues saw higher than the average (108.4%) growth rates of 109.0% for higher-revenue regions, 108.0% for middle-revenue regions, 107.8% for lower-revenue regions. Note that a small degree of differentiation of budget revenue growth rates for the above groups in 2017 resulted in higher equalization transfers (up 19.6% year-on-year in volume terms in 2017). The transfers allowed a much larger differentiation of growth rates of local (tax and non-tax) revenues to be smoothed: 110.2%, 107.0% and 104.9%, respectively.

In 2017, consolidated budget revenues increased in nominal terms in 75 regions, of which 69 regions saw them rise in real terms, with the highest 2017 dynamics seen in the city of Sevastopol (142.0%<sup>2</sup>), the Republic of Crimea (137.4%), Nenets Autonomous Okrug (137.3%), Kaliningrad Oblast (129.8%) and Kemerovo Oblast (123.1%). The following is the list of Russian regions that were faced with the biggest decline in budget revenues: the Republic of Ingushetia (80.2%), Sakhalin Oblast (83.4), Chukotka Autonomous Okrug (91.5%), Khanty-Mansi Autonomous Okrug – Yugra (93.2%), Jewish Autonomous Oblast (93.6%), the Kabardino-Balkarian Republic (94.1%) and the Republic of Mordovia (94.7%).

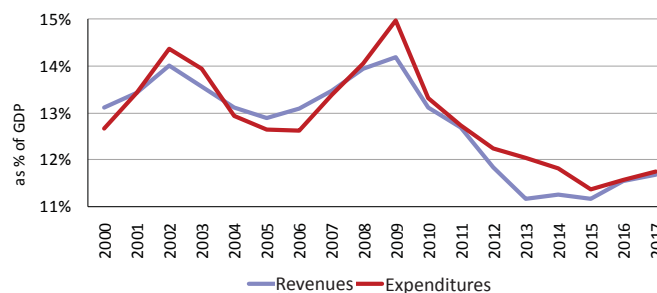


Fig. 1. Consolidated budget revenues and expenditures of subjects of the Russian Federation, as a percentage of GDP

Source: calculations are based on data released by the Russian Federal Treasury and Rosstat (Data on GDP for 2000–2010 were adjusted with a view to ensuring comparability).

<sup>1</sup> Fiscal capacity of subjects of the Russian Federation is determined using a methodology adopted on 22 November 2004 by Russian government's executive order No. 670 "On the Distribution of Equalisation Transfers to Subjects of the Russian Federation".

<sup>2</sup> Hereinafter expressed in nominal terms.

Table 2

## CONSOLIDATED BUDGET EXPENDITURES OF SUBJECTS OF THE RUSSIAN FEDERATION

	as a percentage of total		as a percentage of GDP		Change	
	2016	2017	2016	2017	in nominal terms, %	as a p.p. of GDP
Nationwide issues	6.3	6.1	0.73	0.71	5.2	-0.02
National security and law enforcement	1.1	1.1	0.13	0.13	3.1	0.00
National economy of which:	20.2	21.2	2.33	2.49	14.3	0.16
Agriculture and fishery	2.8	2.5	0.32	0.29	-1.9	-0.03
Transport	4.4	5.2	0.51	0.61	28.2	0.10
Public roads (road funds)	8.7	8.8	1.01	1.03	9.4	0.02
Other issues related to the national economy	2.3	2.6	0.27	0.31	24.1	0.04
Housing and utilities	9.4	10.4	1.09	1.22	20.5	0.13
Environmental protection	0.2	0.3	0.03	0.03	25.2	0.00
Education of which:	25.6	24.9	2.96	2.92	5.6	-0.04
Pre-primary education	6.8	6.7	0.79	0.78	6.5	-0.01
General education	14.7	12.2	1.70	1.43	-10.0	-0.27
Secondary vocational education	1.9	1.9	0.22	0.22	6.0	0.00
Other issues related to education	1.2	1.3	0.14	0.15	11.9	0.01
Culture and cinematography	3.4	3.8	0.40	0.45	20.5	0.05
Healthcare	12.9	7.8	1.49	0.92	-33.9	-0.57
Social security policy	16.6	20.4	1.93	2.40	33.4	0.47
Physical culture and sports	2.1	2.3	0.25	0.28	19.8	0.03
Mass media	0.4	0.4	0.05	0.05	1.9	0.00
Public and municipal debt servicing	1.5	1.2	0.18	0.15	-12.9	-0.03
Expenditures, total	100.0	100.0	11.57	11.74	8.8	0.17

Sources: Russia's Federal Treasury, Gaidar Institute's estimates.

### Expenditures

The increase in regions' budget revenues boosted the dynamics of expenditures from 11.57% of GDP in 2016 to 11.74% of GDP in 2017 (Table 2, Fig. 1).

The structure of regions' consolidated budget expenditures remained similar to what it was in 2016, with some increase in spending on 'National economy' (up 0.16% of GDP, of which spending on 'Transport' accounted for 0.1% of GDP) and 'Housing and utilities' (up 0.13% of GDP), as well as a decline in spending on 'General education' (down 0.27% of GDP). The considerable decline in spending on 'Healthcare' and the increase in spending on 'Social security policy' are largely accounted for by the fact that regionally paid compulsory medical insurance contributions for unemployed individuals have since 2017 been recognized as spending on 'Social security policy', whereas in 2016 most of the regions recognized them as spending on 'Healthcare'.

### Equilibrium and public debt

The increase in consolidated budget revenues of subjects of the Russian Federation as well as the Russian government's policies to prevent an increase in regions' debt liabilities enabled regions to maintain a relatively small overall budget deficit of Rb 51.9bn (0.1% of GDP) in 2017, slightly higher than the 2016 budget deficit (Rb 12.3bn). Excluding Moscow, the regional overall budget deficit stood at Rb 128.2bn in 2016 (Rb 53.7bn in 2017), which

### 3. REGIONAL BUDGETS: POSITIVE TRENDS TO SECURE FOOTHOLD

accounts for increase in the number of subjects with consolidated budget surplus (from 29 subjects in 2016 to 38 in 2017).

Improved budget equilibrium of many regions had a positive effect on the dynamics of regions' public debt. The year-end public debt was down for the first time in nominal terms from Rb 2.35 trillion to Rb 2.31 trillion. The ratio of public debt to tax and non-tax budget revenues of subjects of the Russian Federation contracted from 33.8 to 30.4% in 2017.

Regions' debt burden looks heterogeneous despite overall improvement. For instance, while the 2017 year-end ratio of public debt to tax and non-tax revenues for higher-revenue regions reached the lowest (11.4%) since 2006, it continued to stay high for middle-revenue regions despite the decline from 59.7 to 53.1%. Lower-revenue regions saw no change in the ratio, staying close to 60% (Fig. 2).

As to the structure of regional governments' public debt, there was notable continuation of the trend towards decline in bank loans that reached 28.8% by the end of 2017 (an all-time low since 2012). While, however, bank loans were previously replaced with federally funded loans, the share of securities started to increase markedly in 2017, staying at 23.7% as of 1 January 2017 (Fig. 3).

The uptrend in the share of securities of the regions' public debt structure can possibly continue in 2018 because the federal government have denied new federally funded loans and launching a restructuring programme.

Overall, in 2017, the Russian Ministry of Finance and regional governments pooled efforts to stop the trend towards heavy debt accumulation at sub-national level. In addition, the denial of federally funded loans should facilitate the clarification of "rules of the game" and the transparency of inter-governmental fiscal relations. There remain a number of questions, however, regarding the ensurance of medium- and long-term sustainability of regional

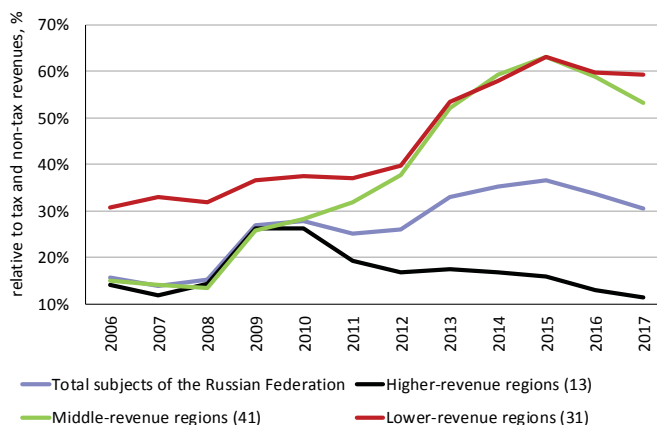


Fig. 2. Public debt of subjects of the Russian Federation with various fiscal capacity

Source: own calculations based on data released by the Ministry of Finance and the Federal Treasury of Russia.

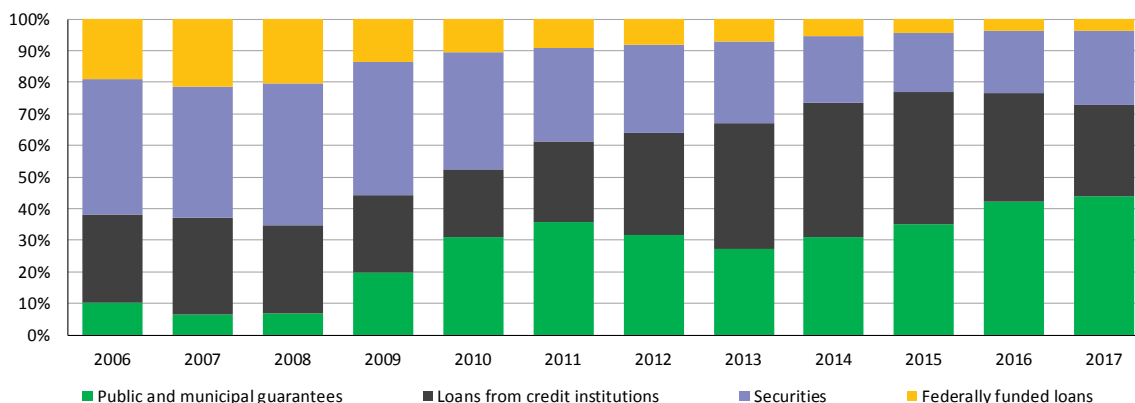


Fig. 3. Structure of public debt of subjects of the Russian Federation, %

Source: calculations are based on data released by the Russian Ministry of Finance.

government's budgets in expectation of decline in federal budget transfers in real terms and discontinuation of new federally funded loans. It remains to be seen in 2018 whether regions will have sufficient funds to be able to afford, among other things, the implementation of a series of decrees that the Russian President issued in May 2012. ●

## 4. LABOR MARKET IN 2017: LABOR SHORTAGES

V.Lyashok

*In 2017, the labor market was recovering after the crisis: the rate of unemployment declined and wages increased. Recovery processes were largely facilitated by workforce reduction which began last year. The first evidence of labor shortages emerged on the labor market which saw full employment for quite a long period of time.*

Last year, the Russian labor market saw important changes, primarily, reduction of the number of workforce. After a long period of stability (2008–2016), in 2017 it decreased by 0.5m people and amounted to 76.3m people at the age of 15–72 years old (75.0m people without residents of the Crimea taken into account) (Fig. 1).

This change was expected. It was caused by aging of the population in Russia for quite a long period of time: the number of working age people (men at the age of 16–59 years old and women at the age of 16–54 years old) was declining from the year 2006 (the local maximum) and fell by 7.8% by 2017. Preservation of the workforce at the same level was justified by growth in business activities and a population influx – including people of a pensionable age – which used to be beyond the labor market limits. However, the potential of such an influx was fully exhausted by last year. It is believed that cancelation of a pension indexation for working pensioners brought about a larger-scale exit of such pensioners from the labor market than in previous years.

Reduction of the number of workforce last year led to a decrease both in the number of the employed (by 251,000 people) and the unemployed (by 277,000 people). As a result, the average number of the employed amounted to 72.1m people (71.1m people without residents of the Crimea taken into account), while that of the unemployed, to 4.0m people (3.9m people without residents of the Crimea taken into account). The rate of unemployment (in compliance with the ILO's methods) amounted to 5.2% and, thus attained the level seen in 2014 when the historic maximum of this index in Russia's modern history was registered.

It is believed that at present Russia has a full employment situation and the rate of unemployment is close to its natural norm<sup>1</sup>. Amid reduction of labor resources, it can be expected that employers will face more and more labor

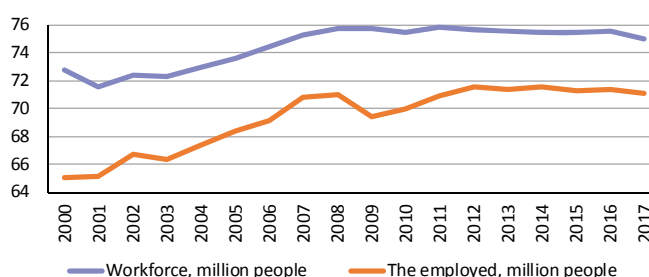


Fig. 1. The number of workforce and the employed at the age of 15–72 years old (without residents of the Crimea taken into account), million people

Source: The Rosstat.

<sup>1</sup> The natural norm of the rate of unemployment is a hypothetical level at which the rate of unemployment is not affected by labor demand fluctuations, but caused by labor market shortcomings (costs related to a job change, incomplete information on job openings and other).

shortages. This is explicitly underpinned by the data of the state employment service: if late in December 2016 there were 116 job openings per 100 registered unemployed, in December 2017 there were 146 vacant jobs.

The only data available to us is that provided by the state employment service which maximum a quarter of all the unemployed (and mainly those with low skills) applies to in a search for a job. It is believed that the situation in other sectors is similar to that described above. Probably, employers will have to take more efforts to attract labor resources.

It is likely that by the end of last year employers started to experience such a pressure on the part of the labor market and it spurred growth in wages to 5.9% in real terms as compared to Q4 2016 (Fig. 2). As a result, according to the preliminary estimates of the Rosstat in 2017 the average monthly pay of hired workers amounted to Rb 39,144, an increase of 3.5% in real terms as compared to 2016.

Generally, wages grew evenly in all the sectors, including education and healthcare where in 2015–2016 a drop in wages was substantial, while growth was lower than in other sectors. The only exception was the two types of economic activities: dynamics of labor remuneration in the public sector (a pay rise moratorium is in effect there from 2014) and hotel and restaurant business. Though wages have not attained the pre-crisis level yet (in Q4 they amounted in real terms to 95.6% of the average pay seen in Q4 2013), accelerated growth rates suggest that it may happen in the near future.

However, it is to be specified that in calculating monthly indices the Rosstat does not take into account the labor remuneration in the informal sector where according to implicit data wages stagnated of late<sup>1</sup>.

Growth in wages is accompanied by a more active utilization of the existing labor resources. After the average number of working hours was reduced during the crisis in 2015, as early as next year this indicator returned to the pre-crisis level and even surpassed it in 2017 (1750 working hours a year) (Fig.3).

In 2017, some evidence of change in the long-term trends of employment in the informal sector emerged. According to the Rosstat's data, in 2012–2016 the share of those employed in it kept growing at constant rates. Within 9 months of 2017, it decreased by 0.5 p.p. as compared to the same period of 2016. So, in 2017 the

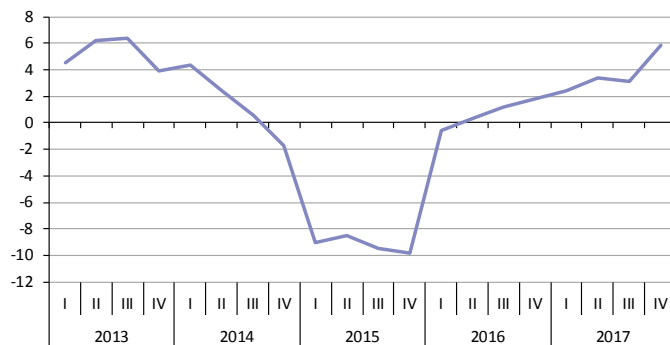


Fig. 2. Real wages growth rates as compared to the previous year, %  
Source: The Rosstat.

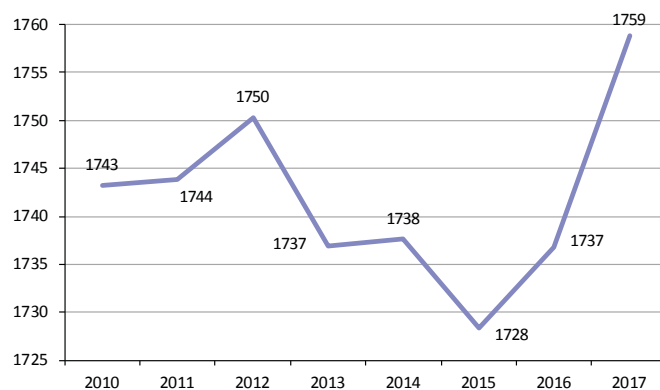


Fig. 3. The annual average number of working hours on the Russian labor market  
Source: The Rosstat.

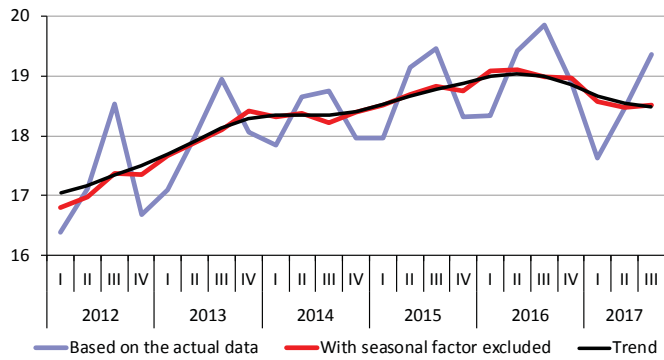
<sup>1</sup> For more details, see: V. Lyashok. Wages and Salaries: Sectorial Differences // Online Monitoring of Russia's Economic Outlook. 2017. No. 21(59). P. 22–26.

number of the employed declined, primarily, in the informal sector, while that of the employed in the formal sector remained more or less constant.

Finally, let's single out the main changes made by the Rosstat in 2017 in respect of the methods of calculation of labor market indices.

First, from the beginning of 2017 the age limits for the Workforce Survey's sample used for calculation of the number of the workforce, the employed and the unemployed (in compliance with the ILO's methods) were extended. If earlier the sample used to include people at the age of 15 to 72 years old, from the beginning of 2017 the upper limit was removed. In 2017, the Rosstat provided the data both in compliance with former and new methods, however, from the beginning of 2018 only the new method-based data will be available. This change is not substantial as additional accounting of the senior age people makes the overall number of the workforce by 150,000–200,000 people higher (an increase of 0.2%).

Second, the methods of calculating the workforce balance and estimating labor costs were substantially upgraded. The workforce balance is based on Soviet concepts and definitions which correlate weakly with the modern labor market. However, labor cost estimates used for calculation of labor productivity are based on the balance data. With the number of workers in the informal sector taken into account, the average number of workers increased by 4m people. ●



**Note.** The calculation of the smoothed data with exclusion of the seasonal factor was carried out in the "DEMETRA 2.2" program with use of the TRAMO/SEATS method.

Fig. 4. The share of the employed in the informal sector alone, % of all the employed

Source: The Rosstat.

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