

MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:

TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

No. 3(41) February 2017

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MAIN TRENDS AND CONCLUSIONS

V.Gurevich

Risks of uncertainty have outranked crude oil prices. Oil-reliant countries are few in number, while almost the entire world is reliant on the country that faces such risks.

Speculations about the new U.S. administration will make the Federal Reserve much less independent remain speculations, while the Fed managers are lost in their vision of the future of the U.S. economy which has recently been doing well. They confess they have no idea what Donald Trump's economic policy would look like in practice. Summing up all the potential effects, the Fed has concluded there is a mounting threat of inflation ramp up and a need to raise rates as soon as possible before it's too late.

The traditionally correct form of expressing U.S. regulator's concerns reveals that it's been long since the last time such concerns were expressed. The risks of uncertainty translated into a well-formed intention of tightening the monetary policy will now hit, through this policy, the global economy – unless, of course, the U.S. President embarks on pressing the Fed to relax the policy, which is one of his previously stated goals. The U.S. President may come to acquire many allies in this rare case.

Russia's risks of uncertainty appear to be more moderate for its economy. Naturally, publicly disclosed government's discussions on tax updates encourage a 1–2 year delay until they take the form of a law, rather than investment growth. The situation brings no extra obscure and dramatic things. What was obscure in the past remains obscure in the present.

The drastic appreciation of the rouble, whose exchange rate was on a very smooth flow until then, was indeed surprising and unexpected. What was expected is gradual depreciation of the rouble under a new policy of daily foreign currency purchases by the Ministry of Finance. Given the fact that by that time crude prices stopped raising, market analysts were confused by the spectacular rouble rally. Four versions were suggested to explain the phenomenon, namely speculative trading (aggressive carry-trade), conspiracy (bulk sales of foreign currency by a large state-run company), ill prediction (expectations that sanctions will be lifted soon), and optimism (investors believe that crude prices will be on the raise again).

Our experts note in their review of the Russian oil sector that, first, last year the sector reached the biggest oil production in terms of volume since the 90s. Second, the sector reached an all-time maximum oil refining depth (79.9%, which is yet below the level (90–95%) in developed countries) owing to a tax manoeuvre. Third, the sector became more export-led: in 2016, the cumulative percentage of exports of crude oil and petroleum products represented 74.6% of total crude production in terms of volume (by contrast, 47.7% in 1990). According to the presented estimation, oil production in 2017 would decrease to 541–543 million tonnes, a 1.1–1.5% decline below the level seen in 2016, if Russia follows up, under the well-known agreement, on the intention to cut its oil production by 300,000 b/d in H1 2017 and if this level is maintained till the end of the year.

If the agreement with OPEC countries is accomplished in practice, it is unlikely that oil production in 2017 will be able to contribute to the growth of Russia's industry. The mineral extraction sector made a considerable contribution to the economy in 2016, according to the experts. Additionally, positive output dynamics was seen in such competitive sectors as chemical industry, consumer goods industry owing to partial substitution of imported goods, metallurgy due to growth in demand that emerged in the fuel and metallurgical complex, and machine engineering whose growth was promoted by government support of the demand for transport engineering products and agricultural machinery. By and large, the 2016 industrial output dynamics is estimated as transition from stagnation to a likely recovery-driven growth.

Russia's agricultural sector exhibited more spectacular dynamics, although there is no guarantee that 2017 will be another bumper-crop year like 2016 was. The sector is expecting the government to at least continue, or better yet, increase government support. Our experts point to new rules for subsidizing bank loans for agricultural producers and agro-industrial complex enterprises that took effect on 1 January 2017. While critically assessing some of the provisions of the relevant government executive order, the experts point to some positive things, too. These include simplifying the way concessionary loans are granted, abandoning compulsory co-financing by subjects of the Russian Federation while allocating federal subsidies for such loans, setting the minimum share, at least 20% of subsidies, for small business patterns.

Concessionary budget loans – in fact they are almost interest-free (0.5%) – as replacement for commercial loans play a significant part in relaxing the debt situation in Russia's regions. According to the experts, the overall regional debt burden (33.8% of tax and non-tax revenues as of 1 January 2017) is relatively small, however, it is covered mainly by donor regions (13.9% on average for this group), while the accumulated debt of poor regions remains very high.

The regional combined budget deficit turned out to be nine-year low at 2016 year end, as little as Rb 12.5bn. This was, on the one hand, due to a moderate growth (4.8%) in budget expenditure, that is, below the inflation rate. On the other hand, consolidated budget revenues of subjects of the Russian Federation were 6.6% above the inflation rate. Profits and excise taxes were the key drivers. As to the personal income tax which is the principal source of regional and local budget revenues (30.4% of revenues), revenues from this tax continued to stay above the inflation rate. Our experts note that in early 2016 growth rates of the personal income tax base recovered from a secular downtrend.

The last year record-low inflation rate, primarily the food inflation rate, created conditions allowing the subsistence minimum to grow slower than prices, thus helping prevent growth of poverty. Our experts also note that according to a methodology that has been in effect since 2014, the subsistence minimum equals a double cost of the minimum set of food products. The dynamics of the subsistence minimum is therefore pegged to the food basket price. However, the food sets differ largely in composition – for estimating inflation rate and for computing a subsistence minimum. The fixed set of goods and services that is designed for comparing cost of living in various regions has specific features, too. The set has a constant (in physical units) structure (kilos of goods, units of goods and services) that differs from the consumer basket structure which is used to estimate inflation rate. Hence its cost varies not because of inflation, and it increased 6.1% in 2016. ●

1. OIL INDUSTRY DEVELOPMENT: EXPORT AT MAXIMUM

Yu.Bobylev

In 2016, production of crude oil in Russia hit maximum since 1990. As a result of tax maneuver ongoing in the oil industry, refining depth went up, production and export of fuel oil moved down and export of crude oil lucrative for the state budget has gone up.

Sustainable oversupply of crude oil seen on the world oil market over recent years has led to a significant decline of international crude oil prices. Against this background, OPEC refused to reduce set quotas of crude oil production and actually conducted policy of retaining its market share. Consequently, Russian crude oil averaged \$51.2 per barrel in 2015, and in 2016 averaged \$41.9 per barrel (*Table 1*).

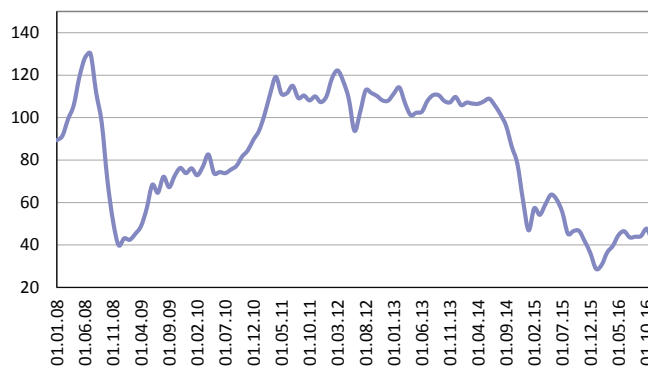
Table 1

WORLD CRUDE OIL PRICES IN 2010–2016 USD/BBL

	2010	2011	2012	2013	2014	2015	2016
Brent crude oil, Great Britain	79.6	111.0	112.0	108.8	98.9	52.4	44.0
Urals crude oil, Russia	78.3	109.1	110.3	107.7	97.7	51.2	41.9

Sources: IMF, Rosstat.

Despite falling prices and imposition of financial and technological sanctions, Russia has maintained positive crude oil extraction dynamics (*Table 2*). In 2016, it hit 549 million tons, which is the maximum value for the entire period since 1990. The following aspects have positively affected crude oil extraction: investments in the oil production, ruble's devaluation, putting into operation several new large oilfields, as well as changes executed in the tax system, which provided incentives for the development of new production regions and upgrade of existing oilfields.



Source: Rosstat.

Fig. 1. Urals crude oil prices in 2008–2016 USD/bbl

Table 2

PRODUCTION AND REFINING OF CRUDE OIL IN RUSSIA IN 2010–2016

	2010	2011	2012	2013	2014	2015	2016
Extraction of crude oil including gas condensate, m t	505.1	511.4	518.0	523.3	526.7	534.0	549.0
Primary crude oil processing, m t	249.3	258.0	270.0	278.0	294.4	287.2	285.0
Share of crude oil processing in its production volume, %	49.4	50.4	52.1	53.1	55.9	53.8	51.9
Crude oil refining depth, %	71.1	70.8	71.5	71.7	72.4	74.4	79.1

Sources: Rosstat, Russian Energy Ministry.

Results seen in 2016 demonstrate positive outcome of the ongoing tax maneuver – structural reform of the taxation system in this sector, which envisages gradual reduction of export duties on both crude oil and petroleum products and increased tax on raw materials extraction¹.

Among new trends, which emerged in 2015–2016, one should mark, firstly, notable increase of depth of oil refining and reduction of production and export of fuel oil, secondly, increase of crude oil exports, which is more lucrative for the state budget compared to fuel oil exports, thirdly, decline of crude oil volume sent to refineries, which is due to the first two factors.

In 2016, depth of oil refining hit 79.1%, which is an all-time high for Russia. It should be noted that in 2000–2014, in other words during a prolonged period up to introduction of the “tax maneuver”, depth of oil refining in Russia constituted 71–72%, and in 2014 – 74.4% (for reference, in leading industrial countries this indicator comes to 90–95%).

Russia's crude oil and petroleum products exports in 2016 constituted 410.8 m tons, which is close to the all-time high reached in 2015. It should be noted that driven by the “tax maneuver” there was a notable growth of crude oil exports registered in 2016 (by 4.2%) and decline of petroleum products exports (by 9.0%), which was mainly owing to a fall of fuel oil exports. The share of exports of crude oil and petroleum products in crude oil extraction in 2016 constituted 74.6% (Table 3). In the meantime, owing to a plunge of global oil prices, the share of crude oil and petroleum products in Russian exports declined from 54.2% in 2014 to 41.6% in 2016.

Table 3

RATIO OF PRODUCTION, CONSUMPTION AND EXPORTS OF CRUDE OIL
IN 2010–2016

	2010	2011	2012	2013	2014	2015	2016
Crude oil, m t							
Production	505.1	511.4	518.0	523.3	526.7	534.0	549.0
Exports, total	250.4	244.6	239.9	236.6	223.4	244.5	254.8
Exports outside CIS countries	223.9	214.4	211.6	208.0	199.3	221.6	236.2
Exports to CIS countries	26.5	30.2	28.4	28.7	24.1	22.9	18.6
Net exports	249.3	243.5	239.1	235.8	222.6	241.6	254.0
Domestic consumption	125.9	140.7	142.1	137.5	141.3	122.2	139.7
Net exports in % to production	49.4	47.6	46.2	45.1	42.3	45.2	46.3
Petroleum products, m t							
Exports, total	132.2	130.6	138.1	151.4	164.8	171.5	156.0
Exports outside CIS countries	126.6	120.0	121.2	141.1	155.2	163.3	148.1
Exports to CIS countries	5.6	10.6	16.9	10.3	9.6	8.3	8.0
Net exports	129.9	127.2	136.8	150.0	162.8	170.2	155.3
Crude oil and petroleum products, m t							
Net exports of crude oil and petroleum products, m t	379.2	370.7	375.9	385.8	385.4	411.8	409.3
Net exports of crude oil and petroleum products in % to crude oil production	75.1	72.5	72.6	73.7	73.2	77.1	74.6

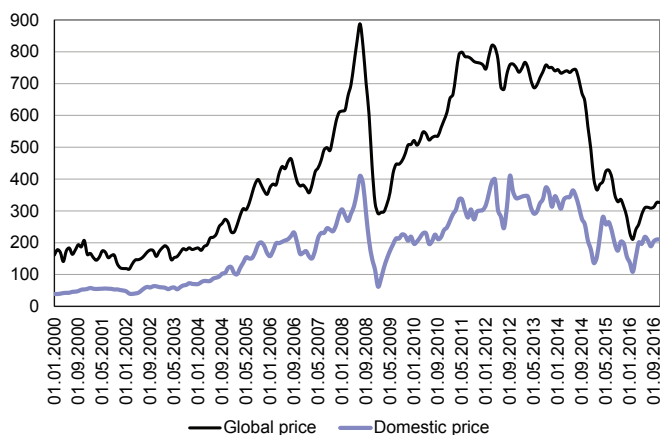
Sources: Rosstat, Russian Ministry of Energy, Federal Customs Service, own calculations.

1 See: Yu. N. Bobylev, G.I. Idrisov, S.G. Sinelnikov-Murylev. Export Duties on Crude Oil and Petroleum Products: need to abolish and scenario analysis of consequences. Moscow, Gaidar Institute Publishers, 2012.

1. OIL INDUSTRY DEVELOPMENT: EXPORT AT MAXIMUM

Analysis of Russia's crude oil exports over the course of a long period demonstrates a significant increase of oil industry exports component: proportion of net exports of crude oil and petroleum products in crude oil production went up from 47.7% in 1990 to 74.6% in 2016. This, however, is due not only to increase of absolute volumes of exports but to market transformation of the Russian economy, increased efficiency of oil consumption and replacement of petroleum products by natural gas.

Oil prices on Russian domestic market are formed as prices of equal profitability from supplies to foreign and domestic markets, in other words as netback prices equal to world price less export duty and export shipping costs. Owing to tumbling global oil price domestic price in dollar terms has also declined. At the same time, due to the export duty, there is still a significant gap between world and domestic oil prices (Fig. 2). In the meantime, owing to a reduction of export duty rate thanks to the tax maneuver, a convergence between world and domestic prices is observed. When in 2014, domestic price constituted 42% of the global one, in 2016 – 61%.



Sources: Rosstat, own calculations.

Fig. 2. Global and domestic oil prices in 2000–2016, USD/t

Table 4

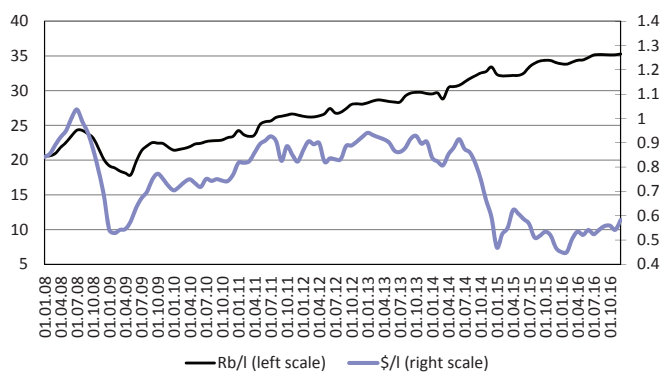
CONSUMER PRICES ON GASOLINE IN RUSSIA IN 2014–2016 RUR/L

	2014 January	2015 January	2016 January	2016 July	2016 December
Gasoline AI-92	29.53	32.35	33.86	35.13	35.28
Gasoline AI-95 and above	32.64	35.16	36.81	38.14	38.34

Source: Rosstat.

There is an upward trend in relation to domestic gasoline prices (Table 4). Ruble's devaluation and increased excises on petroleum products have played the main part. Producers set prices on tradable petroleum products at the level ensuring equal profitability with the export: global (tax-free) price on a corresponding product less export duty and export shipping costs (netback price). Consumer prices on gasoline on the domestic market is based on producers prices (netback prices) taking into consideration indirect taxes (excises, and VAT) and trade increment. In the wake of descending world oil prices, Russian producers' gasoline prices in dollar terms have also tumbled. In the meantime, significant depreciation of the ruble against the dollar and growth of excises have predetermined increase of gasoline consumer price denominated in rubles (Fig. 3).

According to our calculations, the share of indirect taxes in the consum-



Sources: Rosstat, own calculations.

Fig. 3. Consumer price on gasoline AI-92 in ruble and dollar terms in 2008–2016

er price of gasoline comes to 35–43% in Russia. Meanwhile, in five leading EU countries (Germany, France, Great Britain, Italy, and Spain) – 65%, and in USA – 20%. Thus, regarding the tax burden on petroleum products, Russia is in the middle between leading EU countries and the US and is close to Canada, which is also an oil exporter. It should be noted that growth of tax burden in Russia during recent two years (in 2014 the share of taxes in gasoline price constituted 30–40% in Russia).

Gasoline prices in Russia are approaching the US prices, reaching 90% of the American level. Furthermore, they remain significantly lower than in other developed economies: against Canadian prices, they constitute 66%, Japan – 44%, and compared to five leading EU countries – 39%. One can note somewhat decline of relative gasoline prices in Russia compared to developed economies during last two years (*Table 5*).

Table 5

CONSUMER PRICES ON GASOLINE IN RUSSIA AGAINST OTHER COUNTRIES, %

	2014	2016
USA	95.8	89.9
Canada	72.9	66.2
Japan	55.0	44.0
Germany	44.4	38.7
Great Britain	43.3	38.7
France	45.3	39.1
Italy	39.5	35.2
Spain	48.7	44.1
EU-5	44.1	38.9

Source: own calculation based on the data released by OECD/IEA and Rosstat.

At the end of 2016, the OPEC member states together with a number of oil producing countries outside of OPEC including Russia concluded an agreement on a reduction of oil production from 1 January 2017. According to this agreement, the OPEC member states (13 countries) must reduce their production by 1.2 m barrels per day and other parties of the agreement outside OPEC must cut their production by 558,000 barrels per day including Russia – by 300,000 barrels per day.

Projected for 2017 level of global oil prices is rather acceptable for Russian oil producers. According to the World Bank forecast, the world oil price in 2017 will average \$55 per barrel. According to the US Energy Information Administration, it will average \$54.5 per barrel. These prices allow Russia to maintain the accomplished level of crude oil production. In these circumstances, dynamics of crude oil production will be determined by the implementation of taken obligations regarding reduction of oil production.

While cutting oil production by 300,000 barrels per day during H1 2017 and maintaining production at this level by the end of the year according to our calculation will constitute 543 m t. Meanwhile, as January 2017 results demonstrate, actual reduction of crude oil production in Russia kicked off twice as fast compared to the planned rates. If this dynamic continues then announced cut of crude oil production will be achieved in Q1 2017 and the annual production in this case, according to our calculations, will constitute 541 million tons by 1.1–1.5% less than in 2016.●

2. INDUSTRIAL OUTPUT DYNAMICS IN 2016: FROM STAGNATION TO RECOVERY – DRIVEN GROWTH?

A.Kaukin, E.Miller

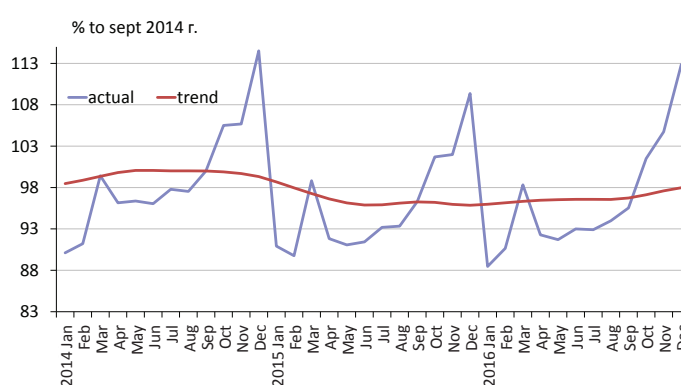
Most of Russia's industrial sectors saw output in terms of volume stabilize at a low level in H1 2016. Output began to grow slowly at year's end. The summary index of the manufacturing sector was driven by positive dynamics during the last few months of the year. Given that Russia's economy is heavily reliant on oil and gas revenues and imported goods, the growth was strongly backed up by mounting crude prices and the year-end appreciation of the Russian rouble.

During the year the Gaidar Institute performed decomposition and isolation of the trend component of industrial production series for particular sectors using Rosstat statistics. Fig. 1 presents the dynamics and the trend component of the industrial production index¹.

In late 2015/early 2016 (January–April): the onset of stagnation²

The late-2015 rouble depreciation and falling crude prices had no significant effect on the Russian real economy. In early and mid-2016, most of the industrial production sectors showed near-zero growth rates due to weak domestic demand and continuing reliance on imported equipment and components. Those sectors that showed remarkably positive output dynamics in terms of volume either manufactured competitive products for both external and domestic markets (e.g., chemical industry) or were on the raise owing to government's demand promotion policies (subsidies to manufacturers of agricultural machinery, freight train rolling stock, etc.).

The early-2016 zero growth rate in industrial production was governed basically by differently directed growth rates of the components thereof. In particular, the mineral extraction sector made a considerable contribution: changes in terms of trade³ were not critical for the sector⁴, and it was profit-



Sources: Rosstat, own calculations.

Fig. 1. Dynamics of industrial production index in 2014–2016

1 A. Kaukin, I. Idrisov. Russian industrial sector in H1 2016: Zero-level dynamics // Monitoring of economic situation in Russia. Trends and outlooks of socio-economic development. No. 14(32). September 2016. A. Kaukin, E. Miller. Industrial sector in Q3 2016: near to zero // Monitoring of economic situation in Russia. Trends and outlooks of socio-economic development. No. 20(38). December 2016.

2 I. Idrisov, A. Kaukin. Russia's industry in Q1 2016: The onset of stagnation? // Online Monitoring of Russia's Economic Outlook. Trends and outlooks of socio-economic development. No. 7(25) 2016. PP. 14–18.

3 See G.I. Idrisov, Y.Y. Ponomarev, S.G. Sinelnikov-Murylev. Terms of trade and economic development in modern Russia // Ekonomicheskaya Politika. 2015. No. 3. PP. 7–37.

4 Y. Bobylev, I. Idrisov, A. Kaukin, O. Rasenko. Crude, budget and tax maneuver // Online Monitoring of Russia's Economic Outlook. Trends and outlooks of socio-economic development. No. 15 (November 2015). PP. 11–14.

able, despite the falling dollar-denominated price, to increase the output of energy carrying resources – the old “growth model” was still working in the mineral extraction sector¹.

During the same period the manufacturing sector was stagnating as a whole. The consumer goods industry was on the raise, showing sustainable growth pace (partial replacement of imported products in the domestic market), as well as metallurgy (because of growth in the output of the fuel and energy sector and manufacture of machinery and equipment)².

The 2016 output in terms of volume was driven by factors both on the supply side (heavier credit exposure, higher prices of imported parts and components, lower competition due to counter sanctions, higher interest rates) and on the demand side (decline in consumer purchasing power, on investment cuts as a result of mounting uncertainty, federal budget spending cuts in 2015). Yet, consumer demand for Russia-made products stopped falling and demand stabilized as at early 2016 (e.g., growth in rouble-denominated prices of imported products was responsible for this in the consumer goods industry).

The dynamics of other manufacturing sectors continued to be on the fairly low, near-zero track, and the downtrend in the manufacture of other non-metallic mineral products, electrical equipment and means of transport continued. Heavy reliance on imports of intermediate products, and low competitiveness of manufactured products continued to be the major obstacles to increasing output.

By and large, the period between December 2015 and April 2016 became a transition to a zero growth rate phase.

April–September 2016: zero-level dynamics³

Q2 2016 saw a narrower range of crude prices, a 25% increase, as a result of which the Russian rouble strengthened⁴. Later, the rouble-dollar exchange rate neared the set level (about 65 roubles per US dollar) despite the fact that the crude price fluctuated within a fairly wide range of \$42–50 per barrel in Q3 2016. A stable rouble exchange rate contributed in general to the lack of major changes in the output dynamics at that period.

Mineral extraction, following a small growth earlier in the year, dropped to zero in late H1 2016. The manufacturing industry continued stagnating. A few

1 Production volumes in the sector of “Extraction of mineral resources other than fuel and energy resources” (metal ores and mineral resources other than fuel and energy resources, including refinery feed to chemical plants and construction raw materials) remain unchanged throughout the entire period under review because products of this type are basically used for internal consumption by sectors in which the situation was relatively benign regardless of the shocks sustained in late 2014 (chemical industry, metallurgy, construction industry). Focusing on this in the market for manufactured products makes the sector of “Extraction of mineral resources other than fuel and energy resources” less reliant on exchange rate fluctuations and external market trends. See I. Idrisov, A. Kaukin, Y. Ponomarev. Production dynamics in particular industrial sectors // Russian economy in 2015. Trends and outlooks. 2016. No. 37. PP. 221–232.

2 I. Idrisov, Y. Ponomarev, S. Sudakov. Russian metallurgy: A weaker rouble is not enough / Online Monitoring of Russia's Economic Outlook. Trends and outlooks of socio-economic development. No. 18 (December 2015). PP. 12–15.

3 A. Kaukin, I. Idrisov. Russia's industry in H1 2016: zero-level dynamics // Monitoring of economic situation in Russia. Trends and outlooks of socio-economic development. No. 14(32). September 2016.

4 The Ministry of Economic Development promises the rouble will appreciate in H2 2016 // RBC. 14.07.2016. [<http://www.rbc.ru/economics/14/07/2016/5787dd8a9a7947b3b0ec7225>]

sectors exhibited some (albeit small) growth in output in terms of volume, namely manufacture of textiles and wearing apparel, woodworking and manufacture of articles of wood, manufacture of chemicals and chemical products, as well as manufacture of rubber and plastics products.

Neither was any growth in other major industries in H1 2016: wholesale and retail trade and construction continued to decline, the freight transport sector was stagnating in terms of volume.

Output continued to decline in terms of volume in sectors that are heavily dependent on imports of components (manufacture of means of transport and electronic equipment). Sectors that can compete internationally began to grow at a slow pace.

October/December 2016: moving toward recovery-driven growth?

In late 2016, the crude oil price was one of the key factors that contributed to a stable economic situation, which in Q4 2016 gradually reached \$55 per barrel, pushing up the Russian rouble.

Consumer goods sectors – textile industry and food industry; woodworking; manufacture of chemicals and chemical products; manufacture of machinery and equipment; as well as manufacture of electronic equipment – contributed to a positive shift in the manufacturing sector at year's end.

The trend component of the production index of the sector "Extraction of mineral resources" continued showing positive dynamics through boosting oil production (and build-up of crude stockpiles) by oil companies shortly before an agreement with OPEC countries on oil production cuts takes effect in 2017¹.

Chemical industry, following a small decline early in the year, was on the strong track in early Q3 2016. The decline can be explained by a solid basis² that was created by putting into operation of new enterprises in 2013–2014, which were up and running at full capacity in late 2015/early 2016, as well as a failure at the industry largest Angarsk Polymer Plant³, which was repaired in late Q2 2016.

The 2016 positive result was achieved first of all by increasing sales (in terms of volume) of Russia-made products in the domestic market. The increase was made possible through upgrade and expansion of production facilities, government's promotion policies, import substitution and post-recession recovery of demand. An explosive growth (by 164% compared to 2015) in the output of chemical crop protection products was determined by the state support. The manufacture of products supplied to the domestic household chemicals market – washing and cleaning preparations, perfumes and cosmetics – increased 7.4% from 2015. A 7% growth in the manufacture of plastics products was indicative of increase in demand⁴.

1 Industrial production monitoring by type of economic activity // The Ministry of Economic Development of the Russian Federation. December 2016 [http://economy.gov.ru/wps/wcm/connect/5eea837f-b996-495e-a25c-f4191cd0d76/monitor_prom12.pdf?MOD=AJPERES&CACHEID=5eea837f-b996-495e-a25c-9f4191cd0d76]

2 Chemical industry continues to grow in 2016 // News and reviews of petrochemical industry. 15.04.2016. [<http://rcc.ru/article/himicheskoe-proizvodstvo-v-2016-godu-snovavyrastet-54208>]

3 Concerning the situation in the Angarsk Polymer Plant // Rosneft News. 30.05.2016. [<https://www.rosneft.ru/press/news/item/182265/>]

4 Russia's manufacture of chemicals and chemical products up 40% over seven years // RIAa Novosti. 27.12.2016. [<http://riarating.ru/comments/20161227/630052231.html>]

Table 1

OUTPUT INDEX BY INDUSTRY, % CHANGE

	A % of the industrial production index	October 2016 from June 2016	October 2016 from September 2016	Changes in recent months
Industrial production index		97.96	100.74	slow growth
Extraction of commercial minerals	33.99	103.94	101.33	slow growth
Manufacturing industry, including:	52.50	95.26	100.28	growth
Manufacture of food products, including beverages, and tobacco	17.05	105.50	101.36	growth
Manufacture of textiles and wearing apparel	1.43	90.38	106.87	slow growth
Manufacture of leather, articles of leather, and manufacture of footwear	0.32	89.53	101.43	decline
Woodworking and manufacture of articles of wood	2.20	103.93	102.74	growth
Manufacture of pulp, paper and paperboard	3.92	96.16	100.73	slow decline
Manufacture of coke, refined petroleum products	18.78	98.84	99.35	stagnation
Manufacture of chemicals and chemical products	7.46	113.96	101.17	growth
Manufacture of rubber and plastics products	2.26	101.45	103.24	stagnation
Manufacture of other nonmetallic mineral products	4.41	84.51	97.77	stagnation
Metallurgy and manufacture of finished metal products	17.23	90.22	98.55	slow growth
Manufacture of machinery and equipment	6.24	94.06	100.29	growth
Manufacture of electrical, electronic and optical equipment	6.05	90.93	100.00	slow growth
Manufacture of means of transport and transport equipment	7.06	82.05	99.43	stagnation
Other industries	5.59	89.14	97.00	slow growth
Electricity, gas and water	13.51	99.98	100.28	stagnation
Retail trade		83.15	97.05	decline
Wholesale trade		88.45	98.52	decline
Transport		104.05	100.99	slow growth
Construction		89.83	97.78	slow decline
Paid services to individuals		97.91	100.36	stagnation

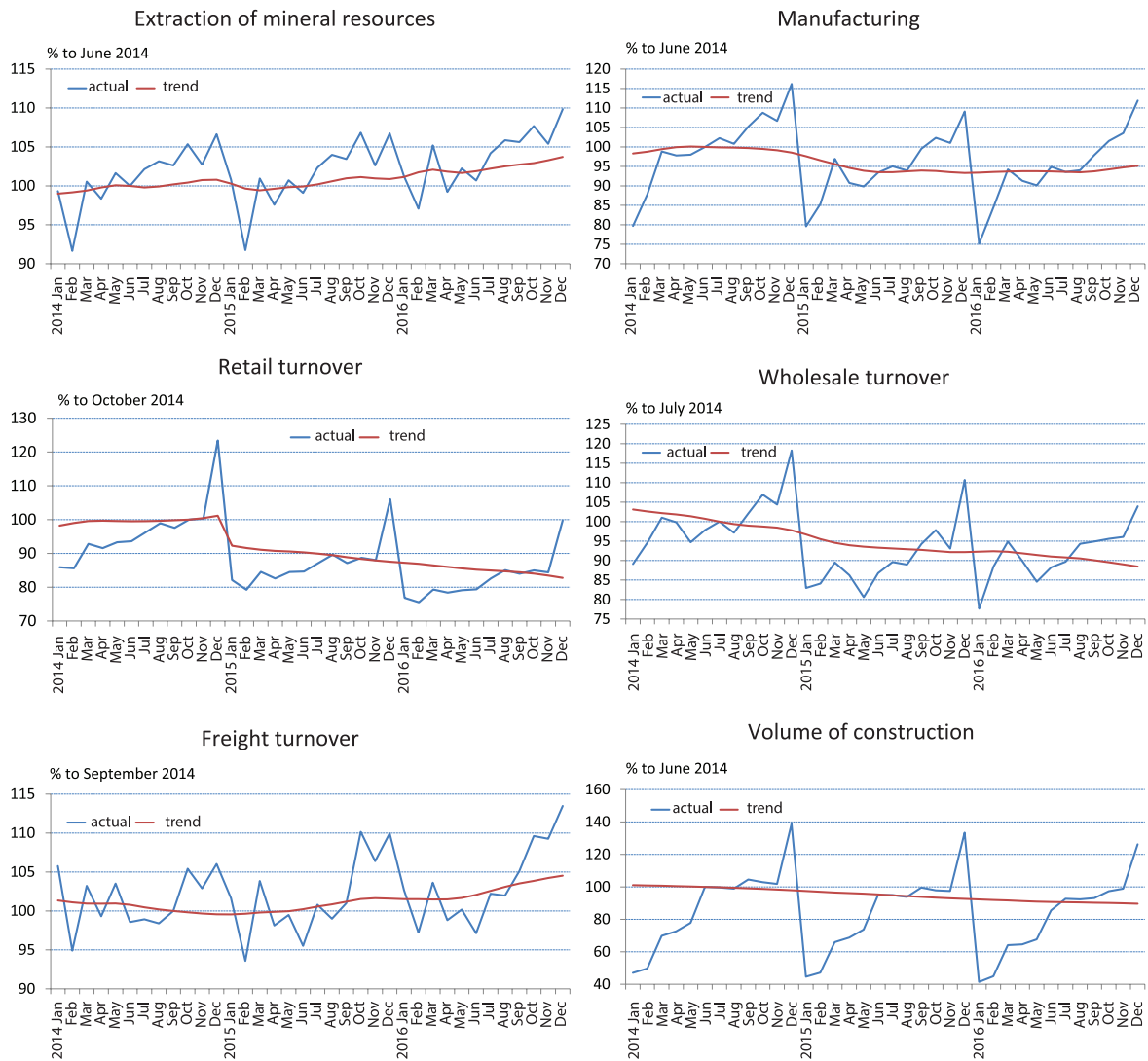
Sources: Rosstat, own calculations.

The year-end output in the machine engineering was ramped up owing to growth in the output of aircraft, automobile trailers, locomotives and agricultural machinery¹ (102106, 121 and 124% from 2015, respectively²). Import substitution, government contracts and targeted measures as part of state

1 An interview with Denis Manturov, Head of the Ministry of Trade and Industry of the Russian Federation, on the 2016 results, for Russia 24 TV Channel // Russia 24. 23.12.2016. [<http://www.vesti.ru/videos/show/vid/701938/cid/6/#>]

2 Russian Federation production indices. 2016 Update // Federal State Statistics Service (Rosstat). 25.01.2017. [http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/industrial/#]

2. INDUSTRIAL OUTPUT DYNAMICS IN 2016



Sources: Rosstat, own calculations.

Fig. 2. Dynamics of production indices by sector in 2014–2016, factual data and trend component

support were the key drivers of growth¹. However, both the decline in overall demand and heavy reliance on imported equipment and components continued to affect the output across machine engineering sectors.

A decline in real disposable personal income was mostly responsible for negative dynamics in other segments of real economy (retail and wholesale sectors, construction industry, and paid services to individuals).●

1 Transport engineering support program in 2016 (Russian Government's Executive Order No. 57-r dated 21 January 2016).

3. LOANS IN THE AGRICULTURAL SECTOR: LIFE UNDER THE NEW RULES

V.Uzun

On 1 January 2017, new rules of subsidizing loans granted by banks to farmers and agribusiness organizations were introduced¹. They radically alter the procedure for subsidizing loans. In particular, a single subsidy rate is set, the mechanism of obtaining soft loans by farmers is simplified, small business's share in subsidies is determined. However, some problems remain unresolved, and new ones added.

Steps forward

1. *Co-financing is canceled.* Before 2017, subsidies from the federal budget were only possible to get provided there was co-financing from the budget of a subject of the Russian Federation. This rule caused a complicated bureaucratic procedure. If parties couldn't agree, or the subject of the Russian Federation refused to co-finance or did not have sufficient funds for it, farmers in this subject essentially had to do without subsidies. According to the new rules, the loans are subsidized from the federal budget, and there will be no co-financing from regional budgets.

2. *A fixed subsidy rate is set.* In the new rules, an interest rate range for soft loans is set for borrowers (1–5% per annum), and the subsidy is paid by the treasury directly to the bank according to the Russian Central Bank key rate for all soft loans.

3. *The mechanism for obtaining soft loans by farmers is simplified.* Under the new rules, after receiving a subsidized loan, a farmer pays the interest on it, and doesn't have to fill papers with the justification of the amount of subsidies monthly or quarterly, or get subsidies from the treasury and transfer them to the bank. The volumes of documents also show that the procedures were simplified: the old rules take 58 pages, the new ones – 13.

4. *No less than 20% of the subsidies must be allocated to small forms of management.* The old rules did not regulate the share of small businesses in the amount of allocated subsidies or subsidized loans, so their vast majority went to large and super large businesses (agricultural holdings).

5. *A more reasonable system for determining the subsidy rate was established.* According to the old rules, it depended on the rate of the Central Bank at the time of signing the loan agreement. Under the new rules, the subsidy rate depends on the key rate at the time of subsidy payment, which allows the state to save considerable resources when the rate is falling and protect the interests of banks when it is growing.

6. *The limit on the sum of soft short-term loans to one person is set.* A borrower can get no more than 1 billion rubles as a subsidized short-term loan. At the current key rate, the sum of subsidies for short-term loans is limited

1 "On the approval of the Rules of allocating subsidies from the federal budget to Russian credit organizations to compensate for the shortfall of income on loans to agricultural producers, organizations and individual entrepreneurs engaged in the production, primary and (or) subsequent (industrial) processing of agricultural production and its sale, at a discounted rate" (the Order of the Government of the Russian Federation from 29.12.2016 No 1528).

to 100 million rubles per person. If the rate lowers to, say, 5%, the maximum sum of a subsidy will decrease to 50 million rubles. The restriction set for large borrowers is intended to help increase the share of subsidies to small and medium businesses.

Steps back

While solving some of the previous problems, the new rules leave a number of other problems unresolved, or generate additional challenges.

1. *Unfounded refusals to provide a subsidized loan.* Under the new rules, as well under the old ones, the applicant may be denied a subsidy due to the exhausted limit of funds reserved for subsidizing interest rates on loans. Previously, the body denying the subsidy was the agribusiness management body of a subject of the Russian Federation. Now, the authorized banks issuing subsidized loans in a given Russian subject can deny subsidies themselves. A farmer should set up a business plan and provide all the documents required by the bank as well as stipulated by the rules. In case the bank takes a positive decision, the farmer becomes a potential borrower. If the limit of subsidies allocated to the bank is enough to satisfy all applications of potential borrowers, they will get loans at subsidized interest rates, if not – the bank itself chooses who gets a subsidized loan and who gets a regular one.

The rules provide that the Ministry of Agriculture of the Russian Federation should establish a procedure of moving from the registry of potential borrowers to the registry of borrowers. This procedure has not yet been approved. But it is unlikely that the corruption component will be eliminated.

A way to eliminate it is to retain the right for subsidies for all potential borrowers.

2. *Changing a subsidized loan into an unsubsidized one.* Under the new rules, when the limit of subsidies is exhausted, the bank has the right to change a borrower's subsidized interest rate to a regular one (i.e. the subsidized interest rate plus the key rate of the Russian Central Bank). The Rules do not provide details of this procedure. It is not clear from the Rules how the contracts will be selected for which the interest rate will increase. This, too, leaves room for infringement of the rights for some and preservation of subsidies for others. This problem should be solved by means of introducing guarantees of subsidy payment under contracts of concessional lending, as it was under the old rules.

3. *Complicated algorithm of subsidy limit distribution.* The system of limit distribution became more complex: previously, there were only regional limits, and now there are also limits for each bank in each subject of the Russian Federation.

4. *The procedure for granting concessional loans to small businesses is not set.*

5. *Smaller banks are barred from lending to small businesses.* It is proposed that for issuing subsidized loans, authorized banks should be selected, with which the Russian Ministry of Agriculture will make special agreements. The authorized banks should have a net worth of no less than 20 billion rubles. There are about 50 banks of this kind in Russia. Most of them have no experience in agriculture, especially in lending to small agricultural businesses. In countries with developed small business, loans are given to such businesses by small cooperative banks or municipal savings banks. Barring small banks from access to lending to small agricultural businesses stipulated by the new rules contradict the general development strategy of the banking sector.

6. *The size of investment soft loans per one person is not limited.* Concessional lending to private businesses (agricultural business is almost 100% private in all Russian regions except the Chechen Republic) means supporting the owners of private organizations. It would be rational to limit the size of a subsidy per person not only on short-term loans, but also on investment loans. In many countries, the total size of all subsidies per person is limited. However, the new rules do contain such limitations. Some owners get multi-billion dollar subsidies on investment loans annually, while the rest are left with crumbs. A level playing field for agricultural producers in the market is not in place, which contradicts the Russian competition law.

7. *Investing one's own funds is not encouraged.* Only bank loans are subsidized under the new rules. If an agricultural enterprise invests using a bank loan, then it qualifies for a subsidy, but if it does so using its own funds, it doesn't. It stimulates the inflow of investment into agriculture, but new investors often do not have experience in the industry, which creates additional risks for return on investment. Along with the inflow of outside investment, the subsidies should encourage the operating enterprises to invest their own funds. To this end, the rules should provide for subsidies for both outside and own investment.

8. *Transitional provisions for moving from the old scheme of subsidizing loans to the new one are not defined.* The new rules came into effect on 1 January, 2017. If one follows the outlined procedure of collecting applications and drafting subsidy allocation plans, the whole year of 2017 will be spent on drawing up lending plans for 2018. Simplified rules are required for issuing short-term concessional and investment loans in 2017. The sowing season will start in two months, and farmers need loans to buy seeds, fertilizers, fuel, etc. It is not yet clear how to integrate those loans into soft loans. ●

4. REGIONAL BUDGETS: GROWTH OF REVENUES AND FISCAL DISCIPLINE

A.Deryugin

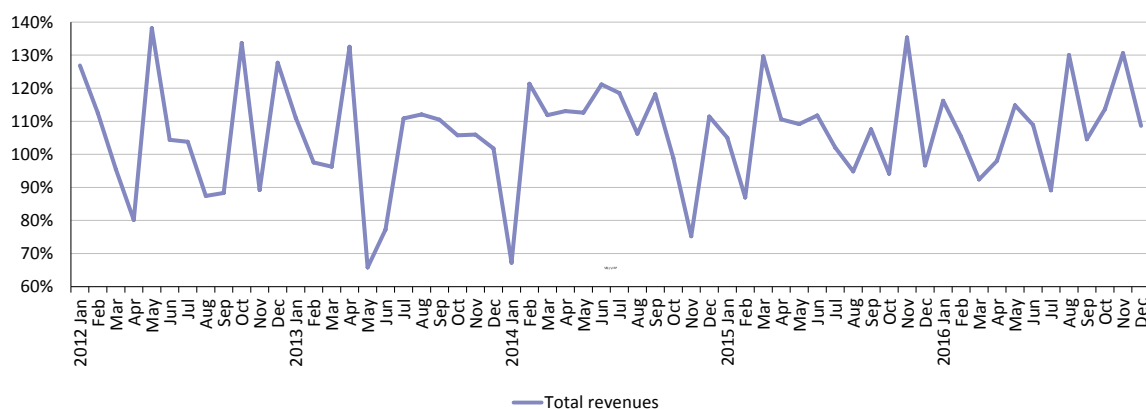
In 2016, actual revenues of Russian regions went up. Fiscal discipline allowed to ensure minimal level of aggregate budget deficit over recent nine years. Nevertheless, total volume of public debt accumulated by poor regions remains high.

Revenues

Positive dynamics of regional revenues demonstrated in H2 2016 positively reflected on the results as a whole for 2016. According to the results of regional and local budgets execution for 2016, consolidated budgets revenues of the RF subjects went up by 6.6%, meanwhile at H1-end growth constituted barely 2.7%. Moved up the number of regions where consolidated budgets revenues exceeded last year's level (72 against 55 at H1-end). Revenues growth rates exceeded the current level of inflation over 12 months in 52 regions (in comparison with 24 at first six months end of the last year). This is due to high rates of budget revenues growth in August–December 2016, which averaged 113.5% against the corresponding period of the previous year (Fig. 1).

Thus, high growth rates of consolidated budgets of the RF subjects late 2016 permitted not only to preserve actual revenues of regional and local budgets at the 2015 level (11.18% GDP¹) but achieve the highest level for the last 4 years (11.55% GDP).

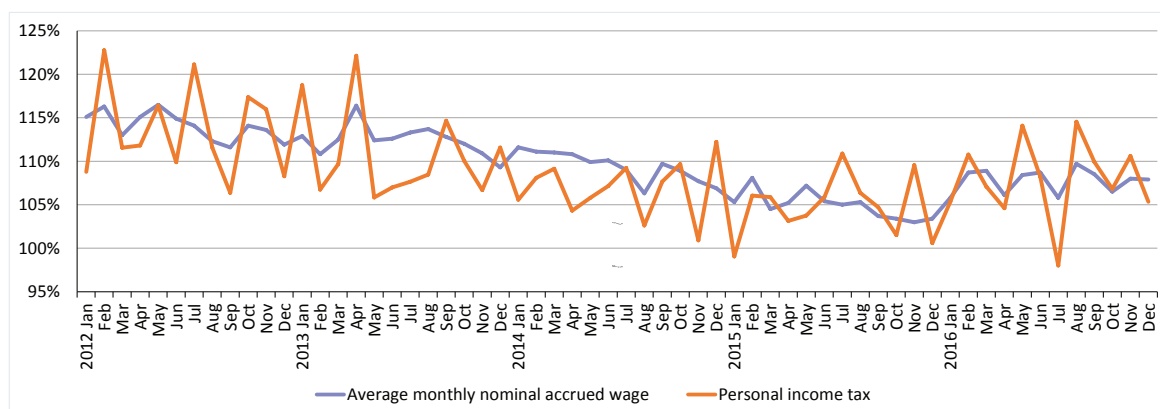
Main sources of revenues growth seen in H2 2016 were corporate profit tax (118.6% against 100.7% for H1 compared to the corresponding period of the previous year), excises (141.3% against 130.2%), property tax (107.4% against 100.9%), as well as non-repayable receipts from other budgets (105.1% against 89.5%).



Source: calculated on data released by Federal Treasury.

Fig. 1. Growth rates of the total volume of consolidated budgets of the RF subjects against the same period of previous year, %

1 Estimates of budgets execution parameters in % to GDP can differ from those previously submitted owing to revision by Rosstat of GDP estimates for 2014–2016.



Source: calculated on data released by Federal Treasury and Rosstat.

Fig. 2. Growth rates of total volume of PIT in the consolidated budgets of the RF subjects and average monthly accrued wage, % to same period of previous year

Regarding PIT being the main source of the regional and local budgets revenues (30.4% of total revenues of consolidated budgets in 2016) despite somewhat decline of its growth rate returns (106.2% in H2 2016 against 108.4% in H1), they remain above the inflation level. To a considerable extent, it was determined by growth rates of the PIT base, which at the turn of 2016 began growing (Fig. 2).

Thus, average growth rates of proper tax and non-tax revenues of the consolidated budgets of the RF subjects in 2016 constituted 108.7% against the 2015 level. Factors, which held of regional and local budgets' growth rates, were low returns from transportation tax (99.4% against the 2015 level), land-value tax (95.3%), non-tax revenues (102.2%), and contracted non-repayable receipts from other budgets (97.6%).

Geographically, the situation is rather ambiguous because each federal districts less the central one there are one to three regions with fiscal revenues below the 2015 level.

Regarding differentiation of income dynamic, one can note higher income growth rates in less thriving regions. For instance, rates of growth of 14 donor regions (not receiving government grants on fiscal equalization) in 2016 constituted 105.0% against 108.0% in other regions. In relation to growth of tax and non-tax revenues, the gap is still higher: 106.3% against 111.4%. Meanwhile, in 2014 and 2015, the situation was the opposite: fiscal revenues of donor regions were growing faster than in other regions.

The revenue dynamics is highly affected by the volatility of corporate profit tax, which in 2016 constitutes 23% of consolidated budgets revenues. If we analyze PIT, then in 2016, it grew faster precisely in rich regions (108.0% against 107.0% in less thriving ones). Moreover, during the entire period from 2006 through 2016 (less 2009 and 2012), its aggregate rates of growth in 14 donor regions and other regions constituted 4.7 and 3.9 times, respectively.

Expenditure

Total growth of expenditure of the consolidated budgets of the RF subjects in 2016 constituted 104.8%, which is below the Consumer Price Index (CPI) (105.4%). Spending on transportation (109.1%), road facilities (117.1%), provision of public amenities (123.9%), culture (109.9%), social policy (110.5%), as well as on physical culture and sport (109.7%) were growing at relatively

higher rates. At the same time, expenses on agriculture and fisheries (88.4%), education (103.0%), health care (94.5%), and public debt servicing (103.2%) were growing at relatively lower rates.

It should be noted that increased revenue growth rates seen in H2 have not led to an additional growth of spending. Thus, regarding their budget policy regions have stopped reacting to short-term positive revenue fluctuations.

Budget balance and public debt

Increased growth rates of revenues seen in H2 2016 and conservation of low growth rate of expenditures resulted in the best consolidated budgets balance indicators seen during last 9 years: deficit came to barely Rb12.5 bn or 0.015% of GDP.

Improvement of these parameters has positively affected the dynamics of regional public debt. For example, despite somewhat growth of its nominal volume from Rb2.32 trillion as of 1 January 2016 to Rb2.35 trillion as of 1 January 2017, its ratio to the volume regional budgets revenues fell during the same period from 36.5 to 33.8% and to GDP – from 2.8% to 2.7%.

Is regional public debt large and can we say that termination of its actual growth demonstrates the fact that the regional debt problem does not gather pace?

In order to answer the first question let us compare parameters of fiscal revenues, expenditures and debt of the subjects of the Russian Federation and subnational budgets of a number of foreign countries. Comparison demonstrates that the level of debt burden on the consolidated budgets of Russian regions is significantly lower than that seen in the developed economies. Debt of the subjects of the Russian Federation and municipalities in 2014–2016 did not exceed 3.0–3.2% of GDP. In OECD countries this indicator averaged 23.9% of GDP and in the EU countries – 15.9% of GDP. Meanwhile, such values of Russian indicators was explained not only by a relative low share of subnational budget in the economy (regarding expenditures less than 12% of GDP in Russia and around 16% of GDP in OECD and EU) but by a relatively low proportion of debt to budget revenues and expenditures. For example, proportion of consolidated debt to the overall volume of consolidated budgets expenditures of the RF subjects in 2016 constituted 26.3%, meanwhile in OECD and EU this indicator is significantly higher – 138.2% and 100.5%, respectively. In this respect, Russia is considerably closer to the Eastern European countries (Czech Republic, Estonia, Hungary, Poland, Slovakia, and Slovenia) where this level averaged 36.8%.

Consequently, average level of regional debt in the Russian Federation remains at a significantly lower level than it is in OECD and EU countries.

It must be born in mind that the regional debt burden is determined not only by the debt volume or its ratio to budget revenues and expenditures but also by efficient interest rate of its servicing and well as by maturity.

Regarding second question, it is necessary to pay attention to the regional specifics of the debt dynamics. The RF subjects with high level of fiscal capacity irrespective of revenues growth rates have conducted a tighter budgetary policy on the whole. They preferred to reduce expenses with accumulating public debt. In 2009–2016, total debt of 14 donor regions moved up by 1.5 times meanwhile debt of other regions – 7.3 times.

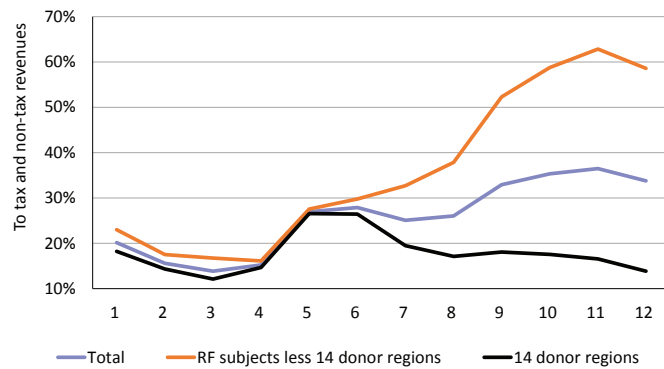
Although on the whole the level of debt burden (33.8% to the volume of tax and non-tax revenues as of 1 January 2017) is relatively small, in donor

regions it averages 13.9% and in other regions – 58.6%. Thus, it approaches the critical level in many regions established by the Budget Code of the Russian Federation.

Prior to 2010, the tax burden level and its dynamics in donor regions coincided with indicators observed in other regions. However, from 2011, the situation changed radically: donor regions on the whole curbed public debt growth by conducting tight budgetary policy, meanwhile other regions began its rapid accumulation (Fig. 3).

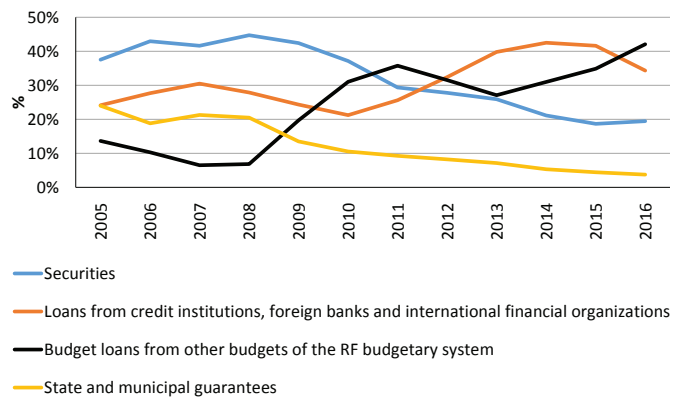
At 2016-end, we can speak about stabilization of regional debt burden. However, total volume of public debt posted by poor regions remains at a high level.

As for the structure of regional public debt, one can observe an upward trend for the share of budget loans from the federal budget, which as of 1 January 2017 constituted 42.1%. This was a result of originated budget loans since 2014 aimed at replacing expensive commercial loans (Fig. 4). ●



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

Fig. 3. Difference in dynamics of debt burden in donor regions and other subjects of Russian Federation



Source: calculated on the data released by Finance Ministry of Russia.

Fig. 4. Structure of public debt of the RF subjects

5. PRICES AND THE STANDARD OF LIVING: FOOD DEPENDENCY

A.Burdyak

The main result of 2016 is the record low consumer inflation, especially food inflation. The subsistence minimum, the level of which is calculated based on the cost of the minimum food basket, was increasing significantly slower than inflation. While in the previous years, the cost of living rose most considerably in poor regions, recently this indicator has changed similarly in all regions of the country.

In recent years, as a result of the lowering standard of living and the increase in the share of poor households, the proportion of food and non-alcoholic beverages in the basket of goods and services approved for calculating the inflation has gradually increased from 28.8% in 2013 to 30.8% in 2016 (it was 30.6% in 2015). We saw about the same share of food in consumption in 2010 – 30.7%¹.

Household spending on alcoholic beverages decreased from 5.4% in 2012 to 4.7% in 2015–2016, which could be the result of the policy of accelerated growth in excise tax rates on alcohol². In 2016, 26.3% of consumer spending went to services, while in 2015, its share was 25.5% (in 2012–2013 – 25.8%). Housing services, water, electricity, gas and other fuels accounted for 11% of consumer spending in 2010–2012, then decreased to 10.5% in 2015, and returned to 11% again last year.

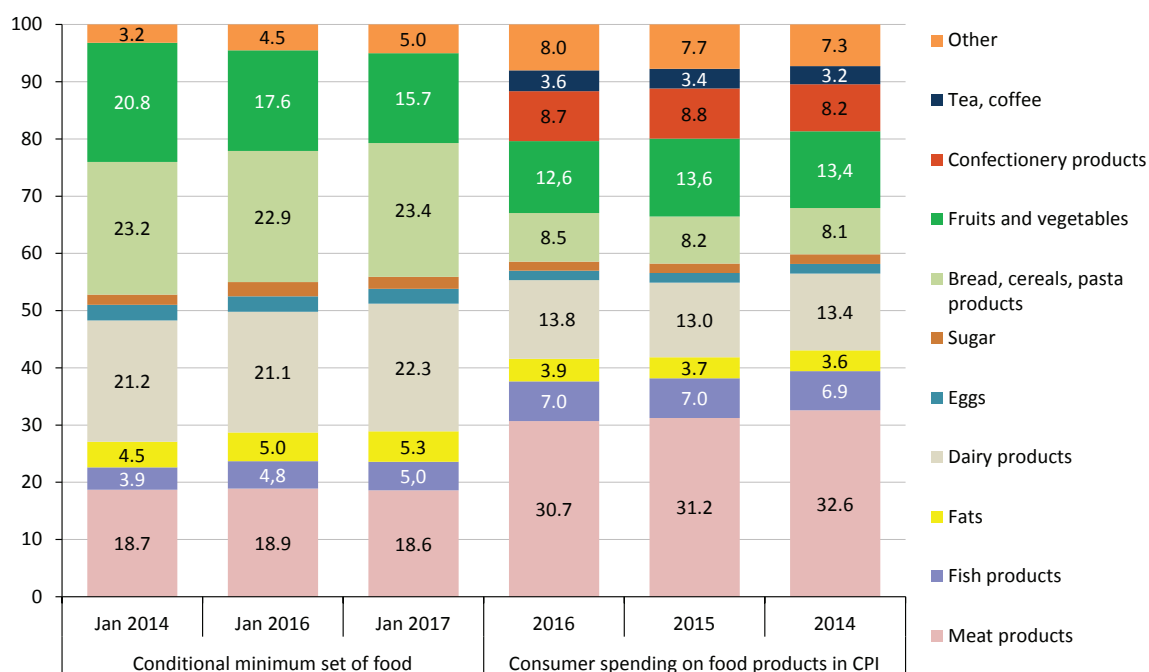
The share of spending on clothing and footwear dropped from 10.7% in 2010 to 9.5% in 2015–2016. This was largely due to the cutdown in spending on clothing. Spending on transport changed considerably. For purchasing cars, people spent 5.4% in 2010 to 7.6% in 2013–2014. Later, this area of households' expenditure decreased to 6.8% in 2015 and 6.0% in 2016. The population's spending on motor fuel, by contrast, increased steadily from 2.5% in 2010 to 3.4 % in 2016. So the population's expenses on purchasing vehicles turned out to be the most sensitive to the economic crisis. As the monitoring of the social situation of the population prepared by RANEPA Institute for Social Analysis and Forecasting shows, a significant number of families have switched to the economy regime by first reducing spending on durable goods³.

Although the average share of food spending is 30.8% of consumer spending, and the product component has a corresponding effect on the aggregate

1 The structure of consumer spending for calculating the consumer price index in the COICOP group in 2017. On the consumer price index in January 2017. Immediate information on topical issues. Rosstat. The weight numbers reflect the structure of consumption in households in the previous calendar year.

2 Next year, the excise tax increase will be frozen, and in 2018–2019, the rate will remain unchanged. Yakovlev E. Demand for Alcohol Consumption in Russia and Its Implication for Mortality // American Economic Journal: Applied Economics. 2017, forthcoming. Yakovlev E. Dangerous Excise: How the Government Refused to Implement Anti-alcohol Policy // RBC. Opinion Section. 27.01.2017. <http://www.rbc.ru/opinions/>

3 Avraamova E., Loginov D. Population's Social Sentiment and Risks of Falling Living Standards // Russian Economic Developments. 2016. No. 11. P. 59–62.



Source: Rosstat Data Books "The basic structure of consumer spending for CPI calculation"; "Social and economic situation in Russia – 2016."

Fig. 1. The structure of the conditional minimum set of food and consumer spending on food products for CPI calculation, %

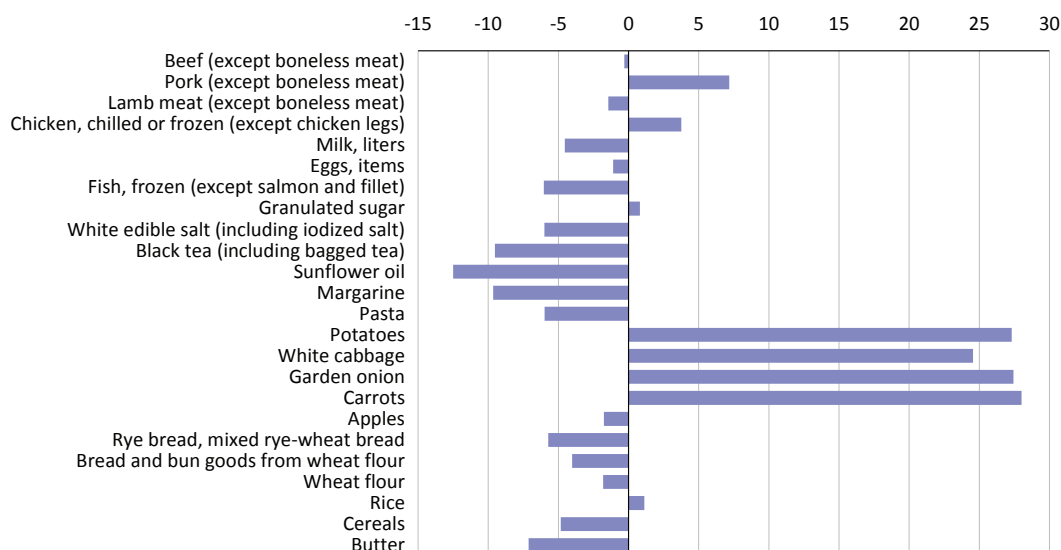
consumer price index, the dynamics of the subsistence minimum is only tied to the price change of the food basket. According to the methodology¹ in force since 2014, the subsistence minimum is equal to twice the cost of the minimum food basket. The cost of non-food products is set as 25% of the subsistence minimum, as well as the cost of services (also 25%). So the level of subsistence minimum is determined solely by the cost of the food basket in current prices, following the food inflation dynamically.

Amid all the previous years, 2016 stands out as the year of low inflation, particularly in food prices, which was the reason for slower growth of the subsistence minimum level compared to consumer inflation. In Q3 2016, the subsistence minimum in the Russian Federation for the "entire population" category increased by 2.2% compared to the corresponding period of 2015. During the same period, from October 2015 to September 2016, the consumer price index rose by 6.4%.

The compositions of the two food baskets – the one for calculating inflation and the one for calculating the minimum subsistence level – are also significantly different. For example, the share of spending on meat products in the minimum food basket is 1.5 times lower, while the share of spending on dairy products is, on the contrary, 1.5 times higher (Fig. 1). Bread, cereals and pasta products in January 2017 amounted to 23.4% of the minimum food basket, while in consumer spending, they amount to 8.5%.

Over the past three years, the structure of household consumption has changed under the influence of three main factors. The first one is the food

¹ The Order of the Government of the Russian Federation from 29 January, 2013, No. 56 "On the approval of the Rules of calculating the minimum subsistence level per capita and by the main socio-demographic groups on the whole in the Russian Federation." http://www.gks.ru/free_doc/new_site/population/urov/met_2.htm



Source: On the consumer price index in January 2017. Immediate information on topical issues. Rosstat.

Fig. 2. The growth rate of purchasing power of per capita disposable income in 2016 relative to 2015, %

embargo which has caused the prices for a number of foods to rise¹. The second one is the growth of foreign exchange rate and the rise in prices for imported components as well as some goods produced in Russia. The third one is the decline in real incomes and the increase in the share of poor households, which has led to increased consumption of bread, cereals and relatively cheap vegetables (potatoes, carrots, onions), i.e. to switching to cheaper products.

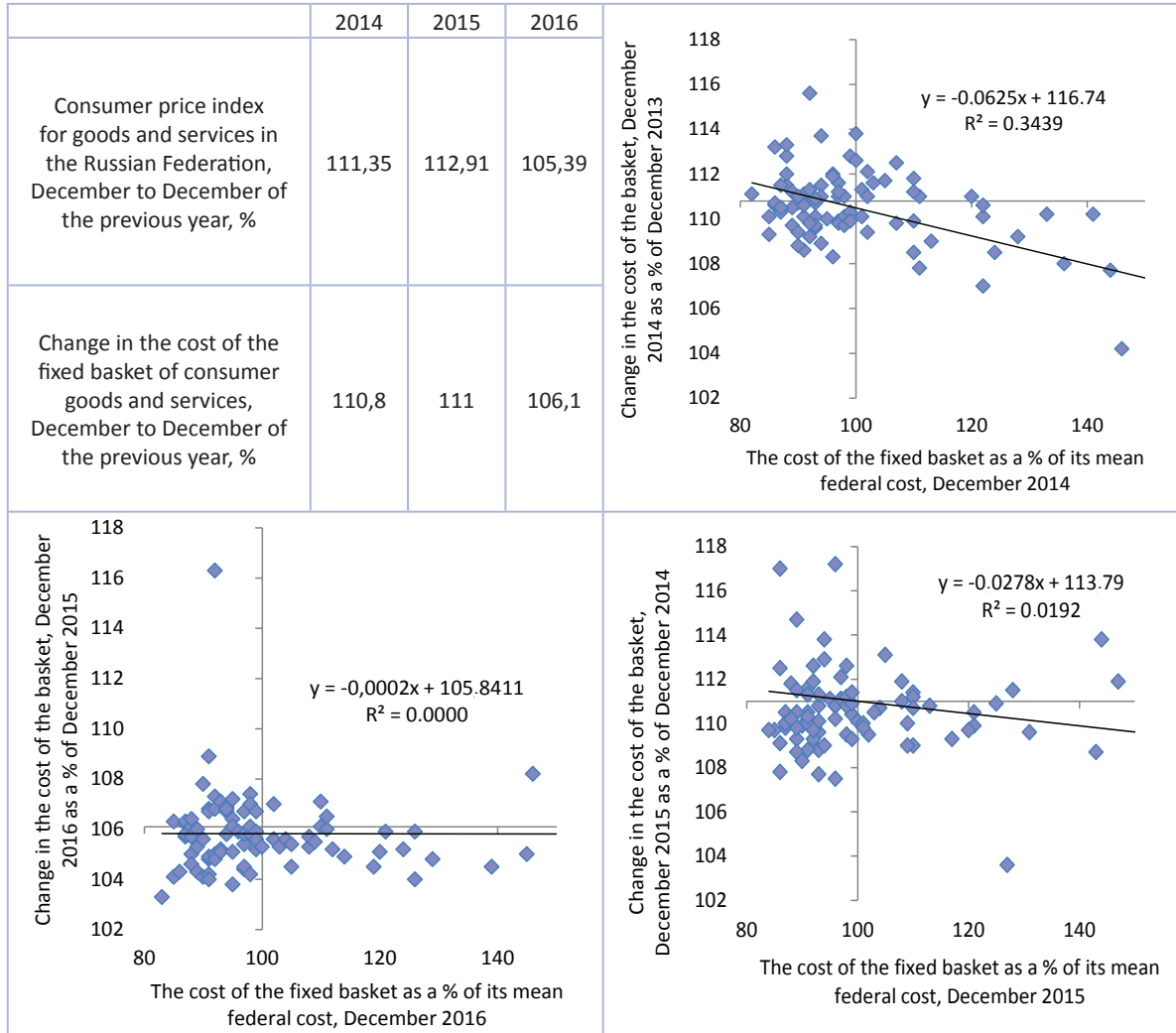
With the average income, in 2016 one could buy 25–28% more potatoes, cabbage, onions, and carrots than in 2015 (Fig. 2), as well as 7% more pork and 4% more chicken. Reduced purchasing power mostly affected the following foods: sunflower oil, margarine, tea, butter (from -12% to -7%). The purchasing power of incomes also declined for all groups of non-food products and services.

How has the cost of living in the regions of Russia changed? As an indicator, let's consider the cost of a fixed basket of consumer goods and services intended for inter-regional comparisons (Fig. 3). The fixed basket has a permanent structure in physical units (kilograms of product, units of goods and services) which differs from the structure of a consumer basket for CPI calculation, so its cost does not change according to the inflation, and in 2016, it increased by 6.1%.

The cost of living rose in 2014 more significantly in the regions where it had been lower, so a convergence of regional indicators was taking place². In 2015, the convergence process slowed down, and in 2016, together with a sharp decline in inflation, the relationship between the cost of the fixed basket of consumer goods and services and the pace of its change became insignificant.

1 Shagayda N. Results of the Embargo on the Supply of Agricultural Products from Turkey // Russian Economic Developments. 2016. No. 7. P. 31–37. Shagayda N., Uzun V. Import Substitution in Agriculture // Russian Economic Developments. 2016. No. 3. P. 63–67.

2 Weighing or spatial correlation models are not used in this calculation. Gorshkova T., Turuntseva M. Forecasting Regional Inflation by Using Models of Spatial Correlation // Russian Economic Developments. 2016. No. 12. P. 76–80; Gluschenko K. On Estimation of Inter-Regional Inequality // Spatial Economics. 2015. No. 4. P. 39–58. Ivanova V. Regional Convergence of Income: Spatial Analysis // Spatial Economics. 2014. No. 4. P. 100–119.



Note. Regions on the graph are marked by points. The horizontal axis is the regional cost of the fixed basket as a percentage of its mean federal cost. The vertical axis shows the change in the cost of the fixed basket compared to December of the previous year. The cross-section of axes corresponds to the value of 100% at the horizontal axis and the change of the mean federal cost of the basket compared to December of the previous year (for 2016 it is 106.1%) at the vertical axis. The origin of coordinates is a nationwide figure. To the right of the vertical axis, there are regions with high cost of living, to the left – subjects of the Russian Federation where the cost of the fixed basket of consumer goods and services is below the national average.

Source: the author's calculations based on Rosstat data book "Information for monitoring the social and economic situation in the subjects of the Russian Federation in December 2016".

Fig. 3. Regional trajectories of the change in the cost of the fixed basket of consumer goods and services, projected onto the ratio of its cost to the national average in 2014–2016.

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