MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:

TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

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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: EXPORT AT PEAK Yu.Bobylev

In 2016, Russia's crude oil production hit an all-time peak since 1990. Under the so-called tax maneuver in force in the oil industry, refining depth went up, production and export of fuel oil moved down and export of crude oil, a highly lucrative source of state budget revenues, increased.

The recent steady supply glut in the world oil market has led to a significant decline in international crude oil prices. In this context, OPEC opted not to cut its oil production quota and de facto launched a policy of retaining its market share. Subsequently, the price of Russian crude oil dropped to an average of \$51.2 and \$41.9 per barrel in 2015 and 2016, respectively (*Table 1*).

Table 1
WORLD CRUDE OIL PRICES IN 2010–2016, USD/BBL

 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.

Russia' crude oil extraction dynamics stood positive despite falling prices and enforced finance- and technology-related sanctions (*Table 2*). In 2016, it hit an all-time high of 549 million tons since 1990. Crude oil extraction was positively influenced by investment, ruble's devaluation, launching of new large oilfields, as well as tax system updates, which facilitated the development of new oil producing areas and the upgrade of oilfields in production.

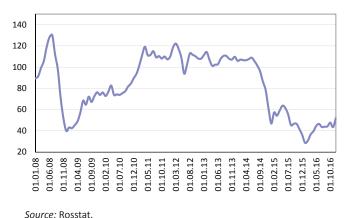


Fig. 1. Urals crude oil prices in 2008–2016 USD/bbl

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 refining, m t	249.3	258.0	270.0	278.0	294.4	287.2	285.0
Share of crude oil refining in crude production, %	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.

Year 2016 demonstrated that the tax maneuver delivered positive outputs: a structural tax reform in this sector envisages stepwise reduction of

export duties on both crude oil and petroleum products, as well as a higher mineral extraction tax¹.

New trends emerged in 2015–2016, and some of them deserve to be mentioned here: (1) oil refining depth increased notably as production and exports of fuel oil declined, (2) crude oil exports, more lucrative for state budget revenues than fuel oil exports, increased, (3) crude oil refining declined in volume terms due to the above two factors.

In 2016, oil-refining depth hit Russia's all-time high of 79.1%. Note that in the period of 2000–2014, that is, during a long period until the "tax maneuver" took force, depth of oil refining in Russia constituted 71–72%, while it stood at 74.4% in 2014 (by contrast, this indicator comes to 90–95% in leading industrial countries).

In 2016, Russia's exports of crude oil and petroleum products constituted 410.8 m tons, close to the all-time high of 2015. Note that 2016 saw a notable growth of 4.2% of crude oil exports spurred by the "tax maneuver" and a 9.0% decline in exports of petroleum products) mainly owing to a fall of fuel oil exports. Exports of crude oil and petroleum products accounted for 74.6% of crude oil extraction in 2016 (*Table 3*). In the meantime, the share of crude oil and petroleum products in Russian exports contracted, from 54.2% in 2014 to 41.6% in 2016, in response to a plunge in global oil prices.

Table 3
RATIO OF PRODUCTION, CONSUMPTION AND EXPORTS OF CRUDE OIL
IN 2010–2016

114 2010 2010							
	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 to -non-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 as % of 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 to non-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 as % of 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.

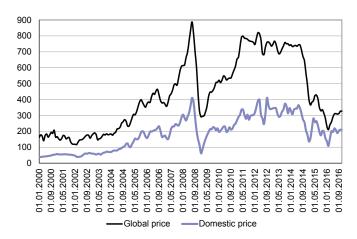
Analysis of Russia's crude oil exports over the course of a long period demonstrates a significant increase in the export-led component of oil industry: the share of net exports of crude oil and petroleum products in crude oil pro-

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.

duction went up from 47.7% in 1990 to 74.6% in 2016. This, however, is due not only to the increase in absolute volumes of exports but to market transformation of the Russian economy, more efficient oil consumption and the replacement of petroleum products by natural gas.

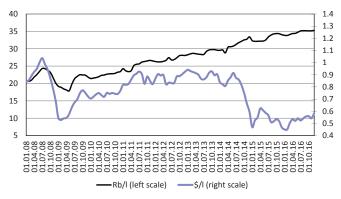
The pricing mechanism for crude oil in the Russian domestic market is based on equal-netback pricing, that is, prices are equal to the world price less export duty and transportation costs. The domestic price in dollar terms declined too, due to a tumbling global oil price. At the same time, there is still a wide gap between world and domestic oil prices due to the export duty (Fig. 2). In the meantime, a convergence of international and domestic prices is observed owing to a lower rate of export duty envisaged as part of the tax maneuver. In 2014, the domestic price constituted 42% of the global price, while it was 61% in 2016.

Motor gasoline prices continued the uptrend momentum in the domestic market (*Table 4*) primarily due to the rouble's devaluation and increased excises on petroleum products. Producers price their petroleum products so that



Sources: Rosstat, own calculations.

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



Sources: Rosstat, own calculations.

Fig. 3. Consumer price in rouble and dollar terms on Al-92 grade motor gasoline in 2008–2016

the price assures a profitability equal to that of exports: the global (tax-free) price on a given product less export duty and transportation costs (netback price). Domestic consumer pricing for gasoline is based on producer prices (netback prices) adjusted for indirect taxes (excises, VAT) and trade increment Russian producer gasoline prices in dollar terms tumbled, too, amid descending world oil prices. In the meantime, significant depreciation of the rouble against the dollar and growth of excises stemmed an increase in the rouble-denominated consumer price of gasoline (*Fig. 3*).

Table 4
CONSUMER PRICES ON GASOLINE IN RUSSIA IN 2014–2016 RUR/L

	2014	2015	2016	2016	2016
	January	January	January	July	December
Regular unleaded 92 octane	29.53	32.35	33.86	35.13	35.28
Premium 95 octane	32.64	35.16	36.81	38.14	38.34

Source: Rosstat.

According to our calculations, the share of indirect taxes in the consumer price of gasoline is 35–43% in Russia, whereas it is 65% in EU 5 countries (Germany, France, Great Britain, Italy, and Spain) and 20% in the USA. Thus, regarding the tax burden on petroleum products, Russia ranks in the middle between EU5 and the USA, and it is close to Canada, another oil exporter.

Note that growth of tax burden in Russia during recent two years (in 2014, Russia's share of taxes in the gasoline price constituted 30–40%).

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: 66% less than prices in Canada, 44% less than in Japan, and 39% less compared to EU5 countries. One can note a somewhat decline in 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					
EU5	44.1	38.9					

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

At the end of 2016, OPEC and a group of oil producing countries from outside OPEC, including Russia, concluded a production cut agreement in effect since 1 January 2017, whereby OPEC (13 countries) agrees to reduce its oil production by 1.2 m bpd and the other parties thereto, 11 non-OPEC countries, agree to cut output by 558,000 bpd, Russia by 300,000 bpd.

The 2017 projection for global oil prices is rather acceptable for Russian oil producers. In 2017, the world oil price will average \$55 per barrel, according to the World Bank forecast, and \$54.5, according to the US Energy Information Administration. These prices allow Russia to maintain the accomplished level of crude oil production. In these circumstances, the dynamics of crude oil production will be governed by Russia's compliance with its commitment to curb oil production.

According to our calculations, Russia's oil output will constitute 543 m t at year end if oil production is down by 300,000 bpd in H1 2017 and onwards. Meanwhile, according to the statistics for January 2017, Russia slashed its oil production twice as fast than expected. Should this pace continue, the announced oil production cut will be achieved in Q1 2017, in which case the annual production, according to our calculations, will constitute 541 million tons, 1.1–1.5% less than in 2016.

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

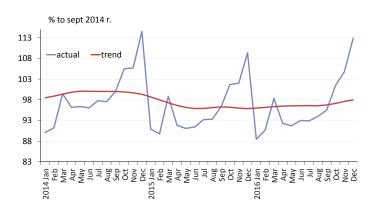
A.Kaukin, E.Miller

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 indus-



Sources: Rosstat, own calculations.

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

trial 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-

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 A. 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.

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-snova-vyrastet-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

OUTFOI INDEX BY INDOSTRY, % 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/#]

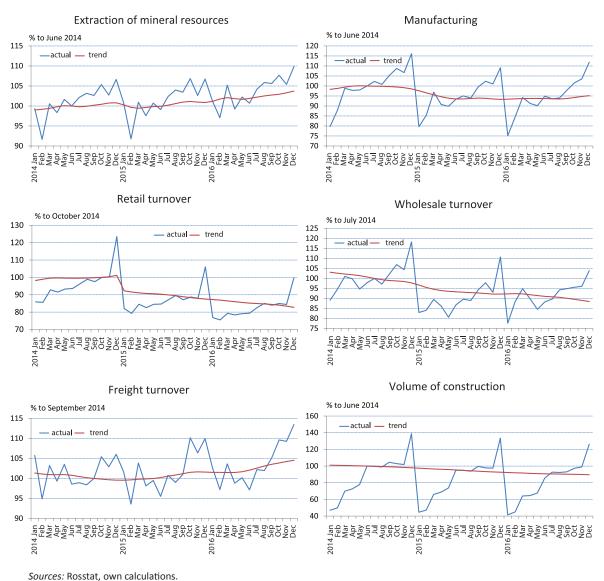


Fig. 2. Dynamics of production indices by sector in 2014–2016, factual data and trend component

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 AGRICULTURE: LIVING UNDER NEW RULES V.Uzun

New rules are in effect in Russia since 1 January 2017, regulating the subsidization of bank loans to agricultural producers and agribusinesses¹. This is a major update to the loan subsidization procedure, introducing in particular a fixed rate for subsidies, a simplified procedure for agricultural soft loans, and a share of small businesses in subsidies. However, some problems have been left unresolved, and new ones have arisen.

Steps forward

- 1. No co-financing is required. Until 2017, federal budget subsidies were contingent upon budget co-financing by subjects of the Russian Federation. The compulsory regional co-financing requirement developed into an increasingly complex bureaucratic procedure whereby agricultural producers of a subject of Russia could be cut off from subsidies if no relevant approval has been obtained or the subject either has refused or is short of money for co-financing. Under the new rules, loans are subsidized from the federal budget and no co-financing from regional budgets is required.
- 2. Fixed rate for subsidies. Under the new rules, the interest rate on soft loans for borrowers varies from 1 to 5% per annum, and the treasury pays subsidies for all soft loans directly to the bank in an amount equal to the Russian Central Bank key rate.
- 3. Simplified procedure for agricultural soft loans. A simplified procedure for agricultural soft loans is now in place whereby agricultural producers will pay an interest on obtained subsidized loans without having to do monthly or quarterly paperwork justifying the size of subsidies, to obtain subsidies from the treasury and to transfer them to the bank. The procedural simplification includes also a shortened list of rules: the old rules were 58-page long, while the new ones are 31.
- 4. At least 20% of subsidies must be allocated to small businesses. The old rules did not regulate the share of small businesses in subsidies or subsidized loans, and therefore the vast majority of subsidies or subsidized loans were granted to large and super large businesses (agricultural holdings).
- 5. A more reasonable procedure for the determination of a subsidy rate has been established. The old rules required the rate to be pegged to the Central Bank key rate set as of the date of the loan agreement. The new rules regulate that the subsidy rate is pegged to the key rate set as of the date of subsidy payment. This will enable the state to save considerable resources when the rate is falling and to protect interests of banks when the rate is on the raise.

^{1 &}quot;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).

6. An upper limit on the size of soft short-term loans per borrower. A single borrower may not take out a subsidized short-term loan worth more than Rb 1bn. Under the current key rate, thecap on subsidies for short-term loans is Rb 100m per person. If the rate lowers to, say, 5%, the cap will decrease to Rb 50m. The limit set for large borrowers is intended to help increase the share of subsidies to small and medium-sized businesses.

Steps back

Although some of the old problems have been tackled, a whole host of them still remain to be addressed, and new issues have been created .

1. Unfounded refusal on subsidized loans. Under the new rules, as well as under the old ones, the applicant may be denied a subsidy if the limit of funds allocated for subsidizing interest rates on loans has been exceeded. Under the old rules, the agricultural administration of a subject of the Russian Federation was authorized to deny subsidies. Under the new rules, subsidies may be denied by authorized banks issuing subsidized loans in a given Russian subject. The agricultural producer must set up a business plan and provide all the documents required by the bank, as well as the documents stipulated by the rules. A positive decision of the bank makes the farmer a potential borrower. If the limit of subsidies allocated to the bank is sufficient to satisfy the applications of all potential borrowers, loans will be issued at subsidized interest rates, if not, then the bank will decide on who will get a subsidized loan and who will get a regular one.

The rules provide that Russia's Ministry of Agriculture must establish a procedure of moving from the registry of potential borrowers to the registry of borrowers. This procedure has not yet been approved. However, it is unlikely that the corruption element will be eliminated.

This can be avoided by preserving 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 exceeded, the bank may change borrowers a regular interest rate (i.e. the subsidized interest rate plus the Central Bank key rate) instead of the subsidized interest rate. The Rules do not provide details of this procedure. It is not clear from the Rules how regular-interest-rate contracts will be selected. This, too, leaves room for infringement of the rights for some and preservation of subsidies for others. This problem should be addressed by introducing subsidy payment guarantees under soft loan contracts, as was the case under the old rules.
- 3. A complicated algorithm for the appropriation of limits on subsidies. The limit-appropriation mechanism has become more complex: while the old rules regulated solely regional limits, the new rules include also limits for each bank in each subject of the Russian Federation.
 - 4. No procedure for sort loans to small businesses has been introduced.
- 5. Small-sized banks are barred from lending to small businesses. Subsidized loans are proposed to be issued by selected authorized banks with whom the Russian Ministry of Agriculture will enter into relevant agreements. Authorized bank's equity capital must be at least Rb20bn. There are about 50 banks that meet this requirement in Russia, most of which have no experience in dealing with agricultural companies, especially in lending to small agricultural businesses. In countries with developed small business, small cooperative banks or municipal savings banks give loans to such busi-

nesses. Barring small banks from lending to small agricultural businesses contradicts the general development strategy of the banking sector.

- 6. No cap on the size of investment soft loans per person has been set. Concessional lending to private businesses (almost 100% of agricultural businesses are private in all Russian regions, except the Chechen Republic) means supporting private owners. It would be reasonable to limit the size of a subsidy per person not only for short-term loans, but also for investment loans. The total size of all subsidies per person is limited in many countries. However, the new rules do not impose such limits. Some owners get multi-billion dollar subsidies on investment loans annually, while the rest are left with crumbs. There is no level playing field for agricultural producers in the market, which contradicts the Russian competition law.
- 7. Own funds investment is not encouraged. Only bank loans may be subsidized under the new rules. If an agricultural enterprise uses a bank loan for investment, then it qualifies for a subsidy, but if it uses its own funds, it doesn't qualify. Although this stimulates investment in agriculture, new investors often have no experience in the industry, which creates additional risks for return on investment. Along with the inflow of investment from outside, subsidies should encourage operating enterprises to invest their own funds. To do this, it should be provided for by the rules that both loan-based and own funds investments may be subsidized.
- 8. Provisions for the transition from the old to a new loan subsidization scheme 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, it would take the whole year (2017) to draw 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 these loans would be integrated into soft loans.

4. REGIONAL BUDGETS: REVENUE GROWTH AND EXPENDITURE CONTAINMENT A.Deryugin

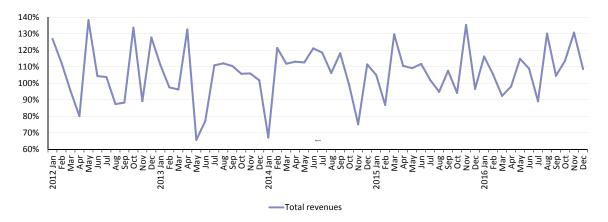
In 2016, actual revenues of Russian regions went up. The overall budget deficit dropped to a nine-year low in response to expenditure containment policies. Nevertheless, the total volume of public debt racked up (accumulated OK) by lower-revenue regions remains high.

Revenues

Positive dynamics in H2 2016had a benign effect on the overall regional revenues at year-end 2016. According to the regional and local budget execution data for 2016, consolidated budget revenues of Russia's subjects went up 6.6%, while at H1year-end they picked up barely 2.7%. There was an increase in the number of regions with year-on-year growth of consolidated budget revenues (72 regions against 55 at H1 yearend). Revenue growth rates in 52 regions outpaced the current inflation rate over 12 months (compared with 24 regions at H1'15 year-end). This was due to high growth rates of budget revenues in August-December 2016, averaging 113.5% compared with the corresponding period of the previous year (*Fig.* 1).

Thus, high growth rates of consolidated budgets of Russia's subjects late 2016 permitted not only to preserve the 2015 level of actual revenues of regional and local budgets (11.18% GDP¹) but also to achieve the highest level in four years (11.55% GDP).

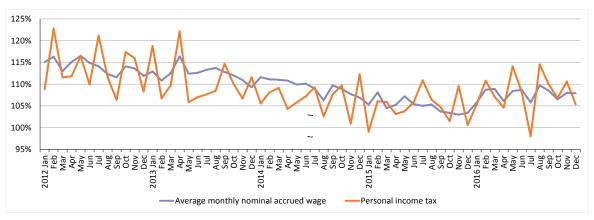
The principal sources of revenue growth in H2 2016 were corporate profit tax (118.6% against 100.7% in H1 2016 compared to the corresponding period of the previous year), excises (141.3% against 130.2%), property tax (107.4% against 100.9%), as well as non-repayable receipts from budgets of other tiers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



Source: calculated using the Federal Treasury data.

Fig. 1. Growth rates of the total volume of consolidated budgets of Russia's subjects, % change compared with the same period previous year

¹ Estimated budget execution parameters as % of GDP may differ from the previously submitted estimates because Rosstat has updated the GDP estimates for 2014–2016.



Source: calculated using the data released by Federal Treasury and Rosstat.

Fig. 2. Growth rates of overall PIT revenues in the consolidated budgets of Russia's subjects and of average monthly nominal accrued wage, % change compared to the same period previous year

Regarding the personal income tax (PIT) as the principal source of regional and local budget revenues (30.4% of total consolidated budget revenues in 2016), PIT revenues outpaced the inflation rate despite some decline (106.2% in H2 2016 against 108.4% in H1). This was largely determined by growth rates of the PIT base, which started growing in early 2016 (*Fig. 2*).

Thus, growth rates of regionally collected tax and non-tax revenues of the consolidated budgets of Russia's subjects in 2016 averaged 108.7% relative to 2015. The factors containing growth rates of regional and local budgets were low transportation tax revenues (99.4% from 2015), land tax (95.3%), non-tax revenues (102.2%), and contracted non-repayable receipts from budgets of other tiers (97.6%).

Geographically, the situation is rather mixed because each federal okrug, except the Central Okrug, has 1–3 regions with fiscal revenues below the 2015 revenues.

Regarding the differentiation of revenue dynamics, one can note higher income growth rates in less well-off regions. For instance, growth rates of 14 donor regions (which did not receive government fiscal equalization grants in the past two years) in 2016 constituted 105.0% against 108.0% in other regions. There is even wider gap between growth rates of tax and non-tax revenues, 106.3% against 111.4%. However, 2014 and 2015 saw the opposite happen: fiscal revenues of donor regions were growing faster than those in other regions.

The revenue dynamics was highly affected by the volatility of the corporate profit tax, which in 2016 constituted 23% of consolidated budget revenues. As regards the PIT, it indeed saw faster growth rates in well-off regions in 2016 (108.0% against 107.0% in less well-off regions). Moreover, during the entire period from 2006 through 2016 (excluding 2009 and 2012), PIT overall growth rates in 14 donor regions and in other regions increased by 4.7 and 3.9 times, respectively.

Expenditure

Total growth of the consolidated budget expenditure of Russia's 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%), 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 fishery (88.4%), education (103.0%), health care (94.5%), and public debt servicing (103.2%) were growing at relatively lower rates.

Note that the H2 increase in revenue growth rates did not lead to an additional growth of spending. Thus, regions stopped reacting to short-term positive revenue fluctuations as a guide for their fiscal policy.

Budget equilibrium and public debt

The increase in growth rates of revenues in H2 2016 and the preservation of low growth rates of expenditures produced the best in nine years figures for overall equilibrium of consolidated budgets with the deficit running at only Rb12.5bn or 0.015% of GDP.

The improvement of the parameters had a positive effect on the regional public debt dynamics. For example, despite some growth in 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 of regional budgets revenues fell during the same period from 36.5 to 33.8% and to GDP – from 2.8% to 2.7%.

Is the regional public debt large? Can we say that its actual growth cessation suggests that the regional debt problem isn't gaining momentum?

In order to answer the first question, let us compare the parameters of budget revenues, expenditures and debt of Russia's subjects with subnational budgets of certain foreign countries. The comparison demonstrates that the debt burden on the consolidated budgets of Russian regions is significantly lower than that in developed economies. The debt of Russia's subjects and municipalities in 2014-2016 did not exceed 3.0-3.2% of GDP, while in OECD and EU countries it averaged 23.9% and – 15.9% of GDP, respectively. The values for Russia are explained not only by a relatively low share of subnational budget in the economy (with expenditures being less than 12% of GDP in Russia and around 16% of GDP in OECD and EU countries) but also by a relatively low ratio of debt to budget revenues and expenditures. For example, the ratio of consolidated debt to overall volume of consolidated budget expenditures of Russia's subjects in 2016 constituted 26.3%, whereas in OECD and EU it was significantly higher - 138.2% and 100.5%, respectively. In this respect, Russia was considerably closer to the Eastern European countries (Czech Republic, Estonia, Hungary, Poland, Slovakia, and Slovenia) where the ratio averaged 36.8%.

Consequently, the average regional debt in the Russian Federation remains significantly lower than that in OECD and EU countries.

However, one should take into account 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 the second question, attention is to be paid to the regional specifics of debt dynamics. Russia's subjects with high fiscal capacity irrespective of revenues growth rates conducted tighter fiscal policies by cutting expenditure instead of opting for public debt accumulation. In 2009–2016, the total debt of 14 donor regions rose by 1.5 times, while other regions saw a 7.3-fold increase.

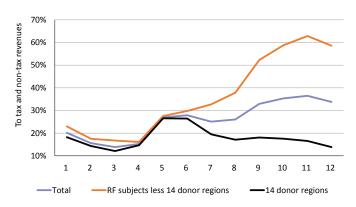
Therefore, although being relatively small in general the (33.8% of the volume of tax and non-tax revenues as of 1 January 2017), the debt burden in

donor regions and in other regions averages 13.9% and 58.6%, respectively, and therefore many regions are close to the upper limit set forth in the Budget Code of Russia.

Until 2010, the level and the dynamics of tax burden were the same for both donor regions and other regions. However, things changed radically since 2011: donor regions mostly used tight fiscal policies to contain public debt growth, while other regions began to accumulate the debt at a faster pace (Fig. 3).

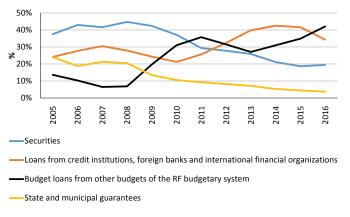
Thus, the regional debt burden stabilized at 2016 year-end. However, the overall public debt accumulated by lower-revenue regions remains high.

As for the regional public debt structure, the upward trend toward a greater share of federal budget loans, 42.1% as of 1 January 2017, continued owing to growth since 2014 of budget loans 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 LIVING STANDARDS: FOOD DEPENDENCY A.Burdyak

2016 was marked primarily by an all-time low consumer (especially food) inflation. The subsistence minimum, which is calculated based on the cost of a minimum food basket, was increasing at significantly slower pace than inflation. The cost of living has recently changed similarly for all regions of Russia, while in the previous years it saw a strong growth in poor regions.

In recent years, the proportion of food and non-alcoholic beverages in the basket of goods and services approved for calculating the inflation rate has gradually increased, from 28.8% in 2013 to 30.8% in 2016 (it was 30.6% in 2015), as a result of declining living standards and a rising share of poor households. About the same share of food products (30.7%) was consumed in 2010¹.

Household spending on alcoholic beverages decreased from 5.4% in 2012 to 4.7% in 2015–2016, presumably owing to a policy intended to accelerate growth in excise tax rates on alcohol². In 2016, services made up 26.3% of consumer spending, while it was 25.5% in 2015 (25.8% in 2012–2013). Housing services, water, electricity, gas and other fuels accounted for 11% of consumer spending in 2010–2012, down to 10.5% in 2015, and back to 11% last year.

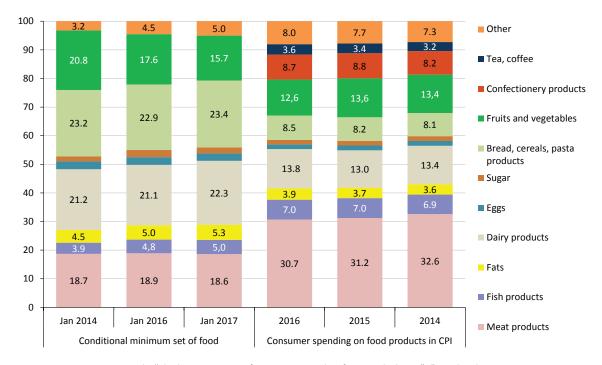
The share of spending on clothing and footwear dropped from 10.7% in 2010 to 9.5% in 2015–2016, largely due to spending less on clothing. Consumer spending on transport changed considerably. Consumer spending on motor cars varied from 5.4% in 2010 to 7.6% in 2013–2014. Later, households decreased their spending on motor cars to 6.8% in 2015 and to 6.0% in 2016. By contrast, consumer spending on motor gasoline, increased steadily from 2.5% in 2010 to 3.4 % in 2016. Therefore, consumer spending on motor vehicles turned out to be the most sensitive to the economic crisis. According to the social situation monitoring of RANEPA Institute for Social Analysis and Forecasting, a considerable number of families have switched to a saving regime by first reducing spending on durable goods³.

Although food spending represents an average of 30.8% of consumer spending, and the food component has a corresponding effect on the aggregate consumer price index, the dynamics of the subsistence minimum is tied solely to the price change of the food basket. According to a methodo-

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.



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

Fig. 1. Composition of conditional minimum food basket and consumer spending on food products for CPI calculation, %

logy¹ in force since 2014, the subsistence minimum is equal to twice the cost of the minimum food basket. The cost of non-food products and of services is defined as 25% of the subsistence minimum. The subsistence minimum is therefore determined solely by the cost of the food basket evaluated in current prices led by food inflation dynamics.

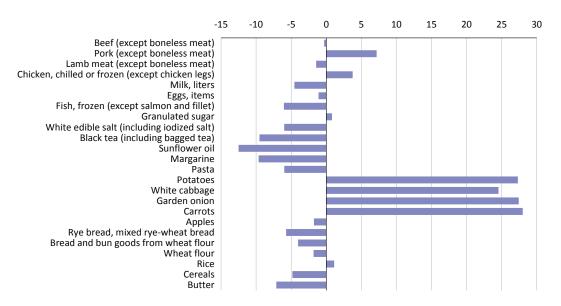
In contrast to previous years, 2016 stands out as a year of low (especially food price) inflation, which was responsible for slower growth of the subsistence minimum compared to consumer inflation. In Q3 2016, Russia's subsistence minimum for the "all sections of population" category increased by 2.2% 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 two food baskets – the former is used to calculate inflation and the latter to calculate a minimum subsistence level – differ largely in composition. For example, the share of spending on meat products in the minimum food basket is 1.5-times smaller, while the share of spending on dairy products is, on the contrary, 1.5-times bigger (*Fig. 1*). Bread, cereals and pasta products in January 2017 amounted to 23.4% of the minimum food basket, while their share in consumer spending stood at 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 embargo, which has pushed some food prices up². The second one is the

¹ The Order of the Government of the Russian Federation of 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

² Shagayda N. The effects of the ban on imports of agricultural produce 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.



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

Fig. 2. Growth rate of purchasing power of average per capita cash income in 2016, % change, year to year

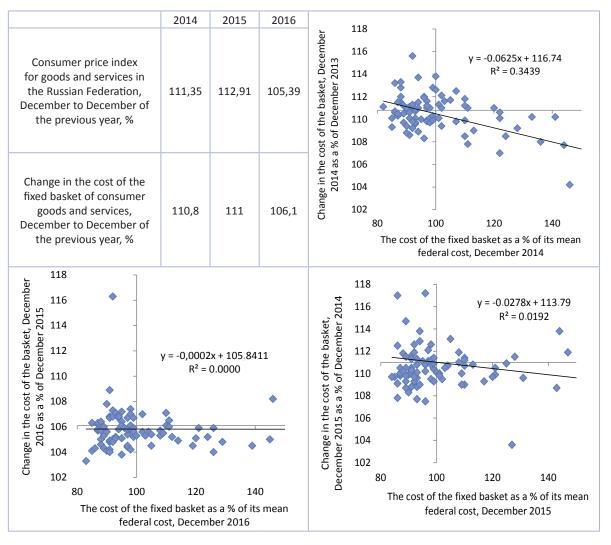
strengthening of foreign currencies against the rouble and the rise in prices for imported components as well as for some goods produced in Russia. The third one is the decline in real incomes and the increase in the share of poor households, which spurred consumption of bread, cereals and relatively cheap vegetables (potatoes, carrots, onions), that is, a switch to consumption of cheaper products.

The average income in 2016 could buy 25–28% more potatoes, cabbage, onions, and carrots, as well as 7% more pork and 4% more chicken, than that in 2015 (*Fig. 2*). Sunflower oil, margarine, tea, butter were hit most by the decline in purchasing power (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 expressed in physical units (kilograms of product, units of goods and services) which differs from the structure of a consumer basket for CPI calculation, and therefore the cost of the fixed basket does not change according to the inflation, and it increased by 6.1% in 2016.

In 2014, the cost of living rose more significantly in the regions with lower living standards, and therefore a convergence of regional indicators took place¹. In 2015, the convergence process slowed down, and in 2016, amid a slumping inflation rate, , the relationship between the cost and the pace of change of the fixed basket of consumer goods and services became insignificant.

¹ 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 are marked with dots on the graph. The horizontal axis is the regional cost of the fixed basket as a percentage of its mean federal cost. The vertical axis shows the December-over-December change in the cost of the fixed basket. The cross-section of axes corresponds to the value of 100% at the horizontal axis and the December-over-December change of the mean federal cost of the basket (it is 106.1% for 2016) 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: own 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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