MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:

TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

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TRENDS AND CHALLENGES OF SOCIOECONOMIC DEVELOPMENT

The existing geopolitical context is capable of endowing seemingly ordinary business events in one or other economic branch with almost global significance. One of the examples of this trend is the recent announcement, by a Japanese state-owned bank, of its readiness to finance a new natural gas project of *Novatek.* This means that, in spite of being under sanctions, a Russian company still can get access to foreign financing from a high-profile official source. Moreover, in the case under consideration, this new source of financing will become a competitor to the company's previous sources of financing (for example, Chinese ones). Thus, the above news story has transmitted two positive signals at once, which overshadow, for the time being at least, the risks that can be brought about by changes in the global market situation, namely global liquefied natural gas demand and LNG prices in the mid-2020s, when this natural gas project, its total cost amounting to about $ 20bn, is planned to be completed.

In the shorter run, the market situation remains equally vague. Having been heavily impacted by the previous oil price rally, oil price forecasts for 2018 stayed for some time in the corridor of $ 60–70 per barrel. However, the sharp drop in the price of oil in February 2017 was sufficient to push the predominant forecast back to $ 50–60 per barrel. The predictions of the end of the shale-oil revolution (based on the US shale oil producers' reputedly weak response to the rise in oil prices) have fared no better. These predictions were quickly replaced by optimistic forecasts that the USA will soon become global leader in oil production.

However, the most dramatic and even mysterious behavior was displayed by the US stock market, whose deep fall, against the background of the positive dynamics of US GDP, a relative stability of debt markets, and a flow of positive reports on the profits of leading companies, has delivered a strong shock to global markets and aroused some rather grave misgivings.

Nevertheless, our experts are not too worried about the current situation. They characterize it not as something disastrous, but simply as a deep and non-accidental adjustment of the market. According to them, the fundamental causes of this situation were the overvaluation of the US equity market and miscellaneous concerns related to the current acceleration of inflation in the USA, which can result in a rapid rise in the key interest rate by the FRS. Our experts believe that it is not inevitable that the overvaluation of a stock market should result in shocks. At the same time, they expect that the market's adjustment will all the same come sooner or later. The depth of this correction will depend on the extent to which the pro-cyclical investment mechanisms are used in the stock market (these mechanisms increase the inflow of funds in times of market growth, and increase their outflow in times of market decline). One of such mechanisms is volatility index futures: it is exactly the growth in the popularity of speculative strategies involving the use of this index that has been taking place in recent years. Our experts believe that the immediate trigger of the adjustment was the active sales of government bonds carried out, for various reasons, in the markets of both the USA and Europe.

According to our experts, the current, and in fact inevitable, adjustment does not create any risks of a systemic crisis. The processes that have caused it are not short-term. They will continue over the next few months, but will not manifest the beginning of a new financial crisis in the USA and in the world. For Russia and the other developing markets, the consequences of this adjustment will be mixed in nature. On the one hand, these countries can be faced with an outflow of funds invested in their economies by global investors. On the other hand, the growth of developing economies in conjunction with stable macroeconomic indicators will attract foreign portfolio investors. In the case of Russia, they will be attracted, first of all, to her government securities market.

A thorough analysis of the Russian financial market's development in 2017 is indicative of the ongoing rise in turnover, which is especially pronounced in the over-the-counter market. At the same time, champions in exchange turnover continue to be the money-market and foreign-exchange-market segments, while the share of the stock market remains insignificant. Our experts note that on the whole, the turnover of Russia's financial markets remains biased in favor of speculative transactions, primarily with foreign-exchange assets.

By the end of 2017, the capitalization of the Russian equity market amounted to RUB 35 trillion (-5.0% on the end of 2016) or $ 623.4bn (+0.2%). Over the course of 2017, the equity market capitalization to GDP ratio dropped from 44% to 39%, while the share of the Russian equity market in the global equity market declined from 1.37% to 0.73%. According to our experts, this means that in spite of a considerable undervaluation of Russian assets, global investors refrain from investing in them. At the same time, the Russian equity market's share in the aggregate equity market of the BRICS group of developing economies is very small (just 6% of the total capitalization of these economies).

Against this background, Russia's internal bond markets continue to grow steadily. Their growth is stimulated, firstly, by the restrictions faced by Russian issuers in international markets, and secondly, by the weakness of the Russian banking system in terms of long-term lending. Corporate bonds account for 59% of the Russian bond market: over the course of last year, their value increased by 21%, to RUB 11.4 trillion (including net bond issuance, which amounted to almost RUB 2 trillion). However, the share of marketable bond issues is declining: they now account for less than half of Russian bond issues. Most of the bonds are either issued by biggest companies (which are not oriented to organizing a secondary market of their securities), or intended for selling to captive structures. The market of domestic government bonds is also growing: it now amounts to RUB 7.25 trillion, while net fund-attraction has climbed to RUB 1.15 trillion, which represents its all-time high since the beginning of observations. The liquidity of the government-bond-market segment has also risen, while the profitability of government bonds has begun to gradually decline, although yields are still higher than inflation and the level of profitability in the economy as a whole. Finally, there was certain growth in the assets of non-bank financial institutions, mainly insurance companies and non-governmental pension funds. However, these segments, as well as their contribution to the formation of long-term investment resources, remain extremely small.

At the end of last year, Russia adopted a law specifying the liabilities of financial market institutions, including the basic notions and concepts regar-

ding international information exchange, reporting requirements and responsibilities. All this is directly related to Russia's accession, in 2016, to the international agreement on automatic exchange of financial account information. It should be reminded that Russia promised to carry out the first exchange of such information as early as 2018. However, before this happens, the Russian government must issue a corresponding decree (its draft for discussion purposes was published at the very end of last year). On the basis of this decree, the Federal Tax Service of the Russian Federation should develop, not later than 1 April 2018, standard formats for the above-mentioned information exchange.

Russia has already concluded agreements on automatic exchange of tax information with 73 countries. The first exchanges of such information will be carried out in 2018, including with Lichtenstein, the Isle of Man, Mauritius, and Singapore. The information in question will be for the 2017 reporting year.

Experts who have been analyzing the behavior of industrial production in the Russian Federation in 2017 emphasize its volatility over the course of last year. The first few months of 2017 were characterized by the trends that had already existed at the end of 2016: low but positive growth rates due to the favorable situation in overseas markets, and the allocation of government subsidies to some branches of the Russian economy. Later on, the extractive industries experienced a relative decline, including due to the restrictions in the field of oil production stipulated by the OPEC+ agreement. At the same time, the chemical industry and some other branches continued to demonstrate growth. The analysis of the trend components of production indices carried out by the Gaidar Institute's experts has led to the conclusion that by the middle of last year industry had returned to stagnation, which continued in Q4 2017. However, it should be pointed out that several manufacturing industries displayed some modicum of growth. Nevertheless, as their share in the aggregate volume of production was small, this growth could not have a significant impact on the general behavior of the industrial production growth rate, which stubbornly hovered around zero. Our experts especially draw attention to the fact that, since early 2017, the Russian Federal State Statistics Service (*Rosstat*) has been applying a new version of the All-Russian Classifier of Economic Activities (OKVED 2) when publishing Russia's industrial production indices, which makes the task of assessing the behavior of GDP, including industry, more difficult.

Problems associated with both statistics and accounting also had an impact on the assessments of Russia's dependence on potato imports and of the severity of 'potato shortage' in the Russian Federation Our experts draw attention to the reports circulating in the Russian media in late 2017-early 2018, on the decline in potato production in Russia, on the reputed growth in Russia's dependence on potato imports, on the sharp decline in potato cultivation at households and private farms, and on the increasing impact of potato prices on the growth rate of food inflation.

As far as this situation is concerned, our experts have made the following observations. Firstly, potato production in Russia has remained stable in recent years. Secondly, the growth in imports relates almost exclusively to the imports of new potatoes, which are, in principle, cannot be harvested in Russia during the season under consideration, and therefore play a negligible role both in potato consumption and potato production (between 1.5%

and 3%). Therefore, our experts believe that it is absolutely wrong to suggest that Russia's dependence on potato imports has increased. The opinion that Russia has experienced a sharp decline in potato cultivation by households and private farms is based on the long-standing radical discrepancy between *Rosstat*'s data and agricultural census data, which undoubtedly should be eradicated as soon as possible. Nevertheless, the aforesaid difference in data does not point to any radical changes in the situation. Moreover, statistics on potato consumption clearly inflated – Russia's potato intake simply cannot be that high. And finally, despite some rise in potato prices, they remain relatively low and incapable of making a significant impact on the growth rate of consumer price inflation, because in any case, the share of potato-based foods and food products in the value of the main foodstuffs consumed by households is tiny – just less than 2%.

1. U.S. STOCK MARKET CORRECTION: CAUSES AND EFFECTS

A.Abramov

The U.S. stock market entered a major correction on 2 February 2018, impacting most of the markets worldwide. Stock indices plunged as volatility increased. The correction was spurred mainly by the U.S. stock market overvaluation as well as concerns about inflation spike in the United States. Yet, there are no signs of a system-wide crisis.

Current state

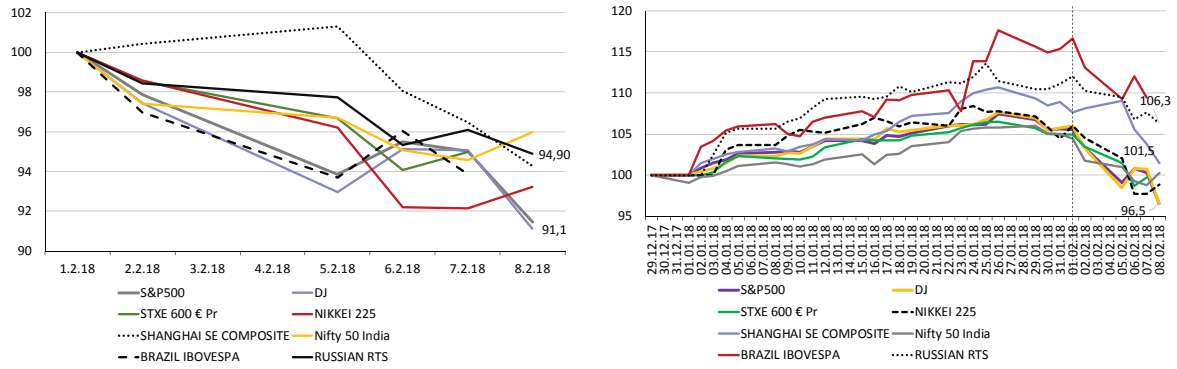

Fig. 1. Stock indices correction (in US$ terms) in world's major economies: 1 February 2018 = 100% (left-hand diagram); 29 December 2017 = 100% (right-hand diagram)

Source: calculations are based on data from Bloomberg.

The distinguishing feature here is that the correction is taking place amid relatively stable debt markets, positive GDP growth rates, new jobs in the United States and good earnings reports from leading U.S. corporations.

Fig. 1 shows data on the decline in the Dow Jones and the S&P500 as well as major stock indices in Europe (Stoxx Europe 600), Japan, China, India, Brazil and Russia since 1 February 2018 and since 29 December 2017. Within five working days (2 February thru 8 February 2018) the Dow Jones industrial average dropped 8.9%, the Russian RTS Index lost 5.1%. Since the beginning of 2018 the Dow Jones has lost 4.5%, whereas the RTS Index has gained 6.3%. On 5 February the Dow Jones plummeted to a record low of 1175.2 p.p. The correction, as shown in *Fig. 1,* was not just an accident (or one-day move), it occurred almost unexpectedly, spreading over to most of the markets worldwide.

The CBOE Volatility Index stood at its lowest for months until the correction occurred, during which the Index skyrocketed from 13.47 points on 1 Febru-

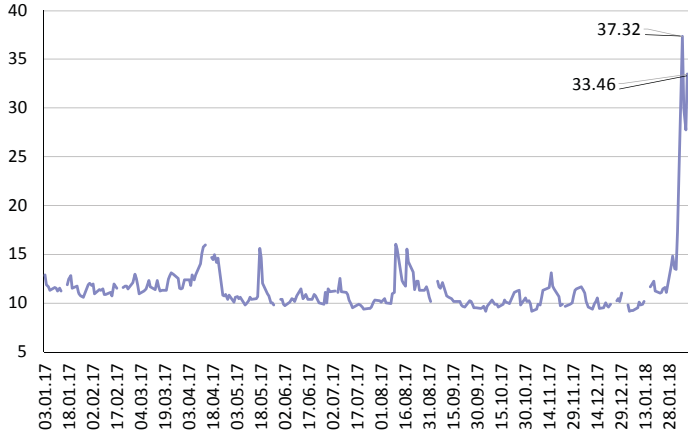

Fig. 2. The U.S. VIX Index (CBOE SPX VOLATILITY INDX), 3 January 2017 thru 8 February 2018, points

Source: calculations are based on data from Bloomberg.

ary 2018 to 37.32 points on "black" Monday of 5 February; the Index slid to 33.46 points as at 8 February 2018 (*Fig. 2*).

Debt markets of leading developed economies still remain relatively stable with a moderate increase in government securities yield in response to the stock market correction (*Fig. 3*). On Friday 2 February 2018, the U.S. 10-year treasury bonds yield reached 2.852%, the highest since January 2014. No massive sellouts in the bond market have so far been observed, thus showing no signs of a system-wide crisis. The correction, according to U.S. Treasury Secretary Steven Mnuchin, does not imply the onset of a system-wide crisis.

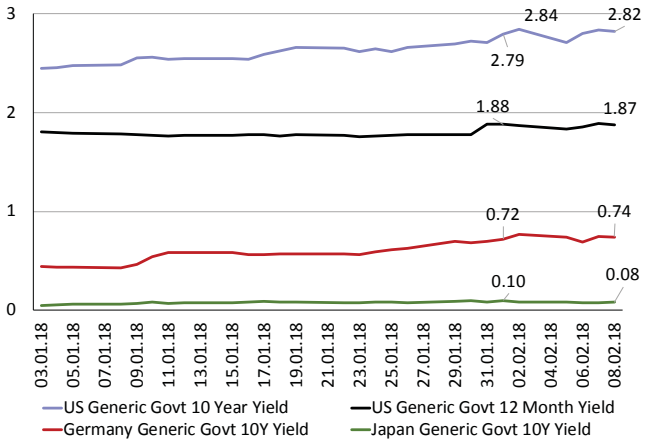

Fig. 3. Government securities yields in the United States, Germany and Japan, 3 January thru 8 February 2018, % p.a.
Source: calculations are based on data from Bloomberg.

Causes

Nothing but assumptions about what was that triggered the major correction in the U.S. stock market have so far been produced. It seemed to be an open secret, however, that there were some fundamental factors that could lead to the correction, namely the U.S. stock market overvaluation according to key financial multipliers as well as concerns about an inflation spike in the United States that could bring about a FED's key rate hike and therefore higher yields in bond markets. Just before the correction

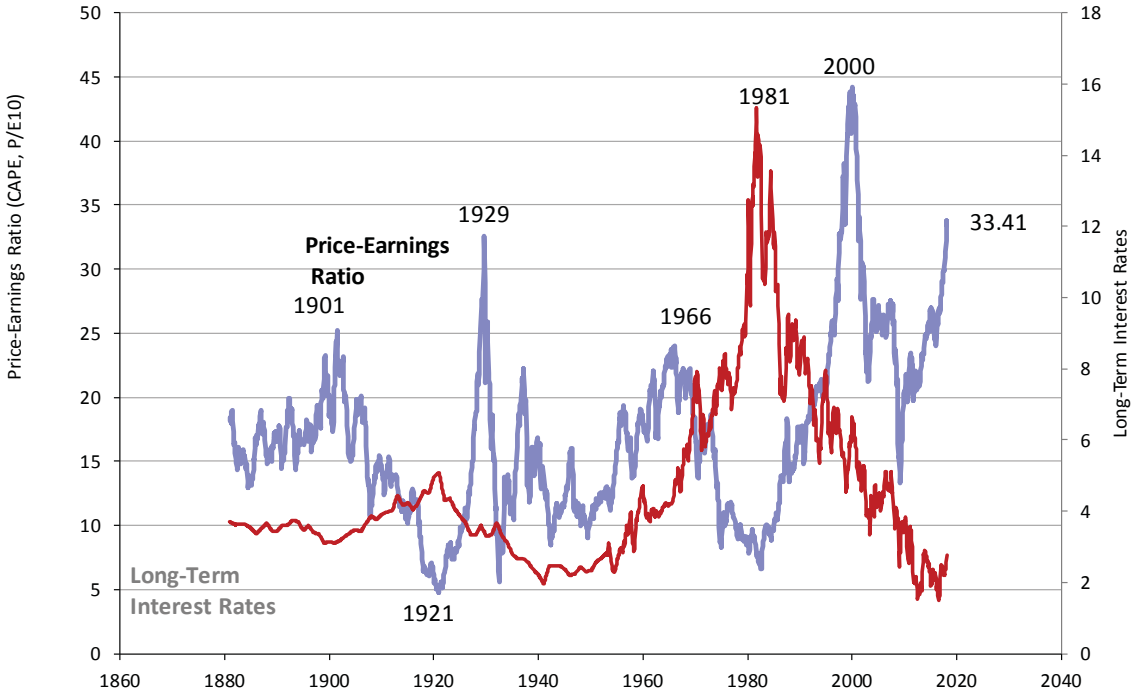

Fig. 4. Schiller CAPE P. for U.S. stock market as at 2 February 2018 (ratio)
Source: http://www.econ.yale.edu/~shiller/data.htm.

occurred, Bloomberg published former Fed governor Alan Greenspan's concerns about those very risks that might lie ahead of the U.S. stock and bond markets.

An illustrative example of the U.S. stock market overvaluation is the CAPE index published by U.S. economist Robert Schiller, reflecting the ratio of current prices of S&P500 companies' shares and the average annual earnings per share (EPS) for the 10 preceding years (*Fig. 4*). The multiplier is now 33.41, similar to what it was at the onset of the Great Depression, 1929.

Ten-year statistics comparing real GDP growth and stock indices of various countries also show that stock markets are overvalued in developed countries compared with emerging markets (*Fig. 5*). In 2008–2017, developed economies saw much slower growth rates than emerging market economies, but developed countries saw stock indices advance much faster than developing countries, which suggests that stock markets will pick up at a faster pace in developing countries than in developed countries on the back of, among other things, global capital flows.

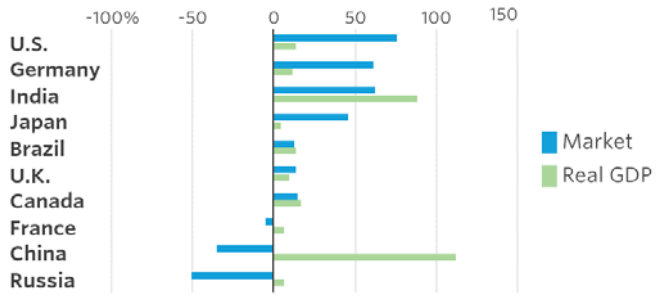

Fig. 5. Stock indices/Real GDP growth ratio in developed and developing countries in 2007–2017
Source: Brookings Institution Global Economy and Development.

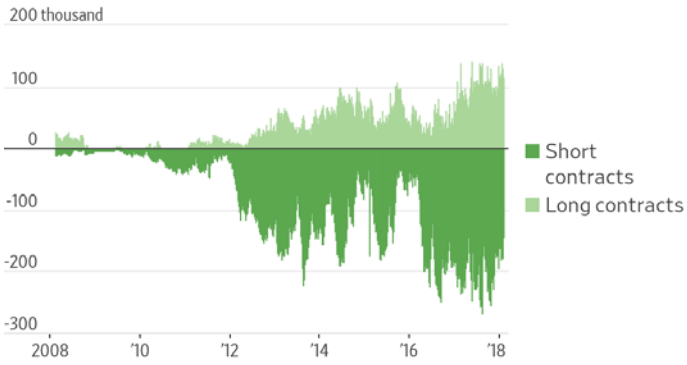

Fig. 6. Number of futures contracts outstanding on the CBOE Volatility Index
Source: U.S. Commodity Futures Trading Commission.

Stock market overvaluation does not necessarily bring about shocks but suggests that correction will occur sooner or later. The depth of correction depends largely on the extent to which procyclic investment mechanisms are used in securities market in order to increase cash inflows in a bullish market and, conversely, to increase cash outflows in a bearish market. One of such mechanisms is the CBOE Volatility Index futures market that promotes cash inflows into the stock market when share prices are less volatile. The velocity of correction depends on market sentiments that can be measured by the ratio of long and short contracts outstanding on the CBOE Volatility Index in the futures market (*Fig. 6*). The decline in short contracts, as shown in the diagram, beginning with 2018 suggests growth in the number of market players expecting that the CBOE Volatility Index will rise.

"Trigger": Versions

Most serious events that can be regarded as "triggers" are the events preceding the government bond sellout on 2 February 2018 in Europe (Germany, Belgium, France) and in the United States. The causes for the sellout in Europe differed from those in the United States. In Europe, bond yields in a few countries increased on good news of resurgent and picking up European economy, thus encouraging investors to ponder on investing in assets of higher risk. In the United States, by contrast, expectations of higher inflation and

therefore a sooner Fed's interest rate hike increased considerably, which would have boosted bond yields[1].

Fig. 7. Falling share price of vehicles focusing on stable CBOE Volatility Index, US$

According to the U.S. Treasury Secretary, and some expert-traders interviewed by WSJ, financial mediators using automated trading could be responsible for the sharp and major correction in the U.S. stock market. Many automated-trading strategies are known to focus more on previous results, but they are not accustomed to unexpected changes. Speculative strategies including VIX-based strategies have increasingly become popular in recent years, as shown in *Fig. 6*. The correction in February hit hard exchange-traded notes (ETNs) and exchange-traded funds (ETFs) with strategies aimed at higher yields on falling CBOE Volatility Index – VelocityShare Daily Inverse VIX Short-Term ETN (XIV) and ProShare Short VIX Short-Term Futures ETF (SVXY) (*Fig. 7*). The sharp spike of the CBOE Volatility Index during the ongoing market correction has crashed stocks held by the foregoing exchange-traded funds. What should be taken into account, however, is that some have lost while others have gained a lot on such transactions in the derivatives market.

Another thing to note is that the effect of procyclical stock investment vehicles such as Exchange-Traded Funds (ETFs) in the U.S. stock market has recently increased. Such funds promote liquidity inflows into the shares of companies making up the most popular stock indices regardless of actual financial standing of issuers. Their contribution to such a sharp market correction is not quite clear, but, according to our estimates, trading volumes in shares (units) of biggest ETFs took a big jump during the correction, which could have increased considerably the depth of the U.S. stock market correction if the funds had sold out their own stocks portfolios (*Fig. 8*).

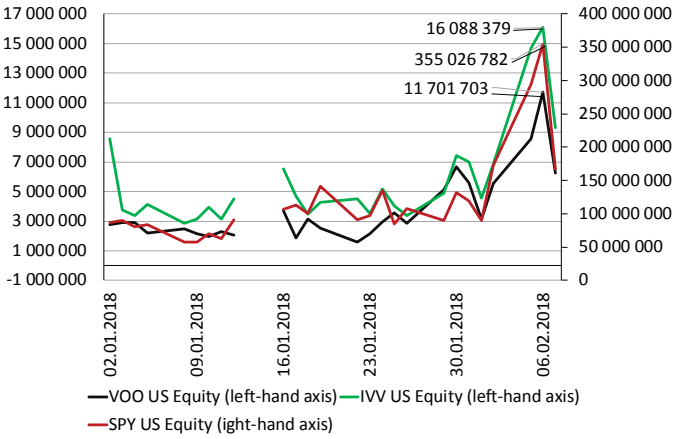

Fig. 8. Daily volumes of stocks (units) of U.S. biggest ETFs on the S&P500 Index, 2 January 2018 thru 7 February 2018, pieces
Source: calculations are based on data from Bloomberg.

Conclusions

The ongoing correction of the U.S. stock market and global capital markets does not pose risks of a system-wide crisis. The correction was inevitable due to the present overvaluation of stocks. In the bond market, investors' jitters on the back of high interest rate hikes would also be difficult to avoid in the face of upward trend for U.S. interest rates and upcoming decrease in the

1 The increase in bond yield implies a decline in the price of previously placed fixed-yield bonds, thus forcing institutional investors and speculative traders to sell out old bond issuances.

assets side of the Fed's balance sheet. These processes are not short-term processes, they will continue over the next few months, but there is no sign of impending financial crisis in the United States and worldwide.

The U.S. stock market correction will have a mixed effect on Russia and other developing countries. On the one hand, higher volatility in advanced markets encourages global investors to move to more secure jurisdictions such as, above all, the United States. On the other hand, a combination of increasing growth rates in emerging economies and stable macroeconomic figures will draw attention of foreign portfolio investors. In Russia, the government securities market will be most appealing to such investors.

2. RUSSIAN FINANCIAL MARKETS: 2017 YEAR-END RESULTS

Yu.Danilov

Russian financial markets continued to see their turnover expand in 2017, led by the firmest growth in over-the-counter (OTC) segments. However, the bias towards speculative trading primarily in FX assets was, as before, characteristic of the turnover structure. Financial market's money and FX segments contributed most to the exchange-based turnover structure. Stock market capitalization changed insignificantly from what it was a year earlier. Russia's local bond markets continued to experience a buoyant growth. The government bond market liquidity increased considerably, whereas the corporate bond market liquidity was down on the back of increased OTC bond issuances.

Russian financial markets trading turnover

Russian financial markets' trading turnover continued to increase, particularly in OTC segments, in 2017. The Moscow Exchange (MOEX) total turnover was up 4.4% as the OTC turnover advanced 31.6%, according to data from the National Settlement Depository (NSD) (*Fig. 1*).

Financial market's money and FX segments continued to be the key contributors to the exchange-based turnover, whereas the securities market kept representing an extremely small share of the turnover (*Fig. 2*).

The increase in securities market's share of the exchange-based turnover in 2017 was primarily due an upsurge of 1-day bond placements (from Rb 1.4 trillion in 2016 to Rb 9.7 trillion in 2017). Given that a major part of investment in the placement of these bonds are simply taken out of the previous day's bonds, it's unlikely that the increase can be regarded as a positive change.

Swaps and forwards (with regard to reportable transactions) made up more than 80% of OTC market structure[1]; in terms of underlying assets, FX instruments accounted for more than 90% of the market structure.

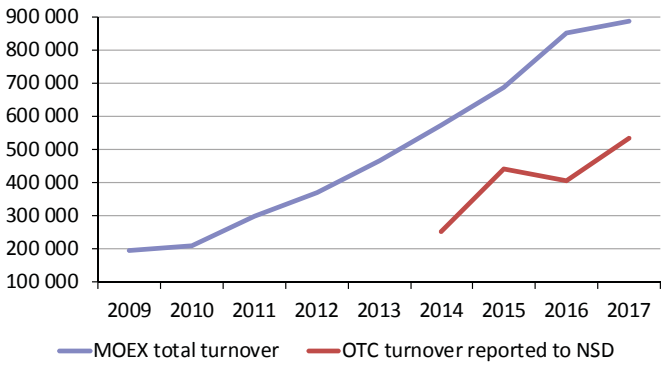

Fig. 1. Russian financial markets' turnover dynamics, billions of roubles

Sources: Moscow Exchange; National Settlement Depository.

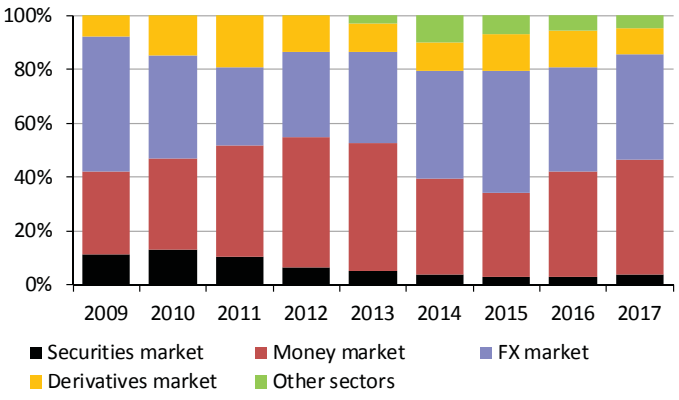

Fig. 2. Exchange-based turnover in Russia, %

Source: according to data from the Moscow Exchange.

1 Correct assessment using the 2017 year-end outputs cannot be performed because the breakdown by instrument was not published until March 2017.

Overall, Russian financial markets' turnover continued to be biased towards speculative trading primarily in FX assets.

Stock market

Russia's 2017 year-end stock market capitalization ran at Rb 35.9 trillion (down 5.0% from the 2016 year-end value), or $623.4bn (adding 0.2% to the 2016 year-end value)[1]. Russian indices also exhibited a similar dynamics. The MOEX Russia Index (the Index is calculated in real time and denominated in rubles) was down 6%; the RTS Index (the Index is calculated in real time and denominated in US dollars) gained 0.2%. The capitalization to GDP ratio in Russia fell to 39% in 2017 (from 44% in 2016). In terms of capitalization, the Russian stock market's share of the global stock market shrank sharply to 0.73% (from 1.37% in 2016).

This implies that despite the fact that Russian assets are greatly undervalued according to standard multipliers, global investors steered clear from investing in the assets. Russia's stock market had virtually dropped out of the BRICS group, representing just 6% of the group's total capitalization. Global investment managers have increasingly been viewing the stock market as a national market of lower investment appeal. Market transactions continued to decline in the exchange-based turnover in stocks. In 2017, repos increased to 87% (compared with 86% in 2016 and with 43% in 2009), reflecting a critical decline in the volume of transactions that is required for sustainable pricing.

Bond market

Local bond markets in Russia continued to experience a sustainable growth fuelled by, first, restricted access for Russian issuers to global markets, and, second, a certain weakness of the Russian banking system, making it harder for enterprises to obtain long-term loans. According to estimates from Cbonds.ru, the total 2017 year-end volume of the Russian local bond market was Rb 19.4 trillion, or 21.1% of GDP.

The corporate bond market continued to be the main segment of the Russian bond market since 2012 (making up 59% of the bond market as a whole in 2017). Outstanding corporate bonds were worth Rb 11.4 trillion (12.4% of GDP) at 2017 year-end, adding 21% to the value seen in 2016. The net corporate bond issuance in 2017 reached Rb 1.99 trillion, marking a considerable increase (of 37–45%) in the past 3-year period that was also characterized by intensive market development.

The decline in the proportion of exchange-based corporate bond issuances became a serious issue over the past few years. Bond issuances of biggest enterprises that are not geared to set up a secondary market for their bonds as well as issue bonds to sell to captive companies was increasingly growing. According to estimates from Cbonds, the 2017 year-end proportion of exchange-traded bond issuances went down below 50%, having an adverse effect on the liquidity of this market segment.

In 2017, the market of corporate bonds and of bonds issued by subjects of the Russian Federation and by municipalities rallied while certain default indicators for these market segments showed an increase: the number of defaulted commitments in 2017 increased to 133 (compared with 108 in 2016); the amount of defaulted bond issuances reached Rb 466bn (Rb 151bn

1 According to the World Federation of Exchanges (WFE).

in 2016), representing 3.8% of overall bonds outstanding in these segments. However, the overall volume of defaulted commitments in 2017 turned out to be equal to previous years' levels, amounting to Rb 35.5bn, because most of the defaults affected coupon payment obligations[1].

The local government bond market reached Rb 7.25 trillion (7.9% of GDP). 2017 saw a substantial increase in public borrowing in the local bond market (Rb 1.15 trillion in net bond issuance, the highest amount on record throughout the monitoring period), but its proportion in the total capacity of local bond market continued to decline, down to 37%. Another 4% was accounted for by bonds issued by subjects of the Russian Federation and by municipalities. The government bond segment liquidity increased considerably in 2017: the secondary trading turnover in OFZs and Bank of Russia bonds (BORB) made up 60% of the total secondary bond turnover (by contrast: 52% in 2016; 19% in 2009).

Yields on bonds gradually slowed during 2017, but the year-end yield curve was overall far above the existing inflation rates and returns on equity across the economy, making this market a less appealing investment for most of economic agents.

High proportion of non-residents holding local government bonds remained a certain risk-inducing factor for the bond market and for local debt markets. According to data from the Bank of Russia, the proportion reached 33.1% as at 1 January 2018, a high 1-year increase (26.9% as at 1 January 2017).

Derivatives market

Outstanding positions in the exchange-traded derivatives market were worth Rb 703bn, up 10% over the amount recorded in 2016, and almost nine times the 2009 amount. However, market capacity high growth rates are still not enough for the market to be able to reach levels at which biggest Russian enterprises could use it as efficient tool of hedging risks: the ratio of outstanding positions to GDP was just 0.76% (*Fig. 3*).

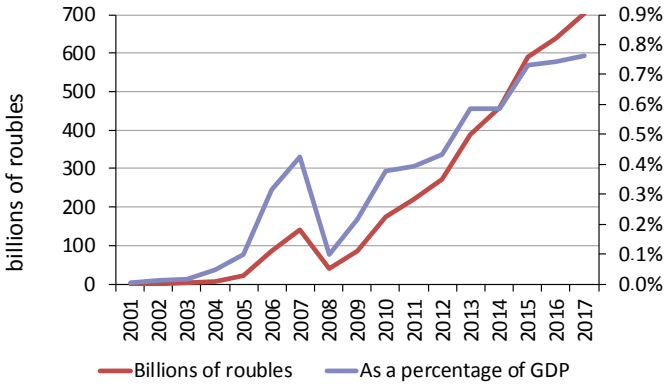

Fig. 3. The value of outstanding positions in the exchange-traded derivatives market

Source: based on data from the Moscow Exchange.

Despite the increased value of outstanding positions, volumes of trading (in value terms) in exchange-traded futures contracts in 2017 plummeted 27% as futures trading volumes dropped 29%, whereas options trading volumes increased 19%, which could be due to Bank of Russia's efforts (particularly planed efforts) in restricting access to the market for unqualified investors that play the most prominent part in this segment of the exchange-based market.

The Russian derivatives market is divided into two segments. Markets for securities and index derivatives are exchange-based markets while other segments of (FX, interest rate, commodities, credit) derivatives are OTC-based

1 Cbonds is the source of all data on default indicators.

markets. The division makes sense. The markets for securities and index derivatives is a typical marketplace for non-bank financial institutions and private persons that are keen on exchange trading. Markets for interest rate derivatives, FX derivatives, credit derivatives and, in part, commodity derivatives (given that commodity derivatives include, but not limited to, futures and options on precious metals) are financial market's classical banking segments with OTC-based relations between players.

Apart from rare cases of credit derivative transactions and swaptions, the Russian derivatives market remained an extremely narrow and incomplete market in terms of available instruments (primarily futures and options in the exchange-based market and swaps and forwards in the OTC-based market) and underlying assets (commodity derivatives market and interest rate derivatives market as well as credit derivatives market are extremely underdeveloped), thus narrowing considerably the spectrum of risks that can be hedged in the market.

Non-bank financial institutions

Non-bank financial institutions continued to increase their assets in H1 2017, led by intensive growth in segments such as the insurance market and the non-government pension fund market, whose assets outpaced the economic growth (*Fig. 4*). At the same time, unit investment funds and the industry of professional securities market players continued to stagnate, hit hardest by the use of technologies peculiar to banking oversight that fall short of taking account of specific features of non-bank financial intermediaries.

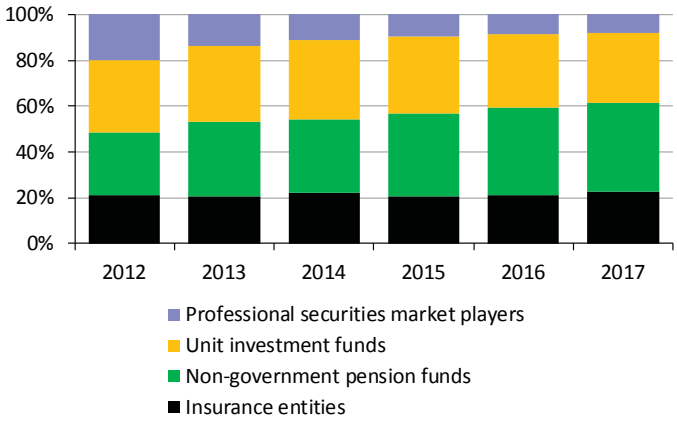

Fig. 4. The ratio of main four groups of non-bank financial institutions' assets to GDP, %

Source: based on data from the Bank of Russia.

Note: The size of non-bank financial institutions' assets for 2017 is presented based on the data for Q2'17.

Overall, the non-bank financial sector is extremely small in size despite active growth in some of its groups (the four main groups collectively hold assets worth just 10.5% of GDP), which is a significant factor that imparts instability to the financial sector and determines largely the deficit of long-term investment resources in the Russian economy.

3. THE INTERNATIONAL AUTOMATIC EXCHANGE OF TAX INFORMATION: HOW IT WORKS

A.Levashenko, A.Koval

Russia has reached an agreement on the automatic exchange of tax information with 73 countries. It means that the RF Federal Tax Service is able as early as this year to receive automatically information on foreign accounts of Russian tax residents: individuals, legal entities and persons controlling them. But to make this information exchange a reality, it is necessary to adopt a number of regulations.

In 2014, the OECD approved a multilateral competent authorities' agreement on the automatic exchange of financial and reporting information (CRS MCAA). At present, 98 countries, including Russia became parties to the agreement. The last country which joined the agreement a few weeks ago was Panama.

The automatic exchange is carried out directly on a bilateral basis between the countries participating in CRS MCAA under the auspices of the OECD, for example, between Russia and Cyprus, Russia and the Netherlands and so on. At the same time, there is a difference between the mechanism of information exchange based on bilateral agreements, but built on a multilateral platform and that without participation in CRS MCAA. As the exchange of information within the framework of CRS MCAA is feasible de facto only by means of application of the OECD's common reporting standard (CRS), some jurisdictions use it for signing bilateral tax agreements on the CRS-based exchange of information (for example, Hong Kong, and Singapore). However, most countries carry out the information exchange within the framework of CRS MCAA multilateral system.

Plenty of countries prefer the multilateral system because it provides them with information on tax havens (such jurisdictions provide information on a unilateral basis only), information on facts of violation of provisions of the agreement and any CRS MCAA-related notifications. Multilateral system participants may initiate amendments to the agreement. On the OECD's platform, CRS MCAA participants activate their information exchange relations: in 2017 more than 2600 bilateral information exchange agreements for 78 jurisdictions in CRS MCAA were activated. In its turn, Russia will receive information from 73 countries and provide the data to 56 countries.

To understand better the mechanism of operation of the automatic exchange of information, it is necessary to discuss in greater detail the common standard of reporting which sets the following parameters:

1) the scope of entities, that is, financial institutions which form this reporting. Such entities are credit institutions, investment companies and insurance companies. The state is in a position to define the list of financial institutions which are exempted from the liability to form and submit reporting (for example, pension funds which receive contributions from government institutions);
2) the scope of persons in respect of which the reporting is formed: individuals, that is, residents of the participating jurisdictions, legal entities (as well as entities without the legal entity status) and persons control-

ling them. The OECD pays a particular attention to the control issues because the mechanism of identification of controlling persons permits to identify beneficiary owners of companies and entities without the legal entity status (trusts) which are used for receiving the passive income abroad (distribution of dividends, sale of real property and other);

3) the list of accounts in respect of which the reporting is formed: deposit accounts, custody accounts, insurance and annuity accounts, and investment company assets. State have the right to define the list of low-risk accounts in respect of which no reporting is formed (for example, the so-called dormant accounts on which no transactions took place for a few years);
4) the procedure for identification of the tax residency of financial institutions' customers based on their accounts. The rules differ depending on the fact whether the accounts are new or old and whether they belong to individuals or legal entities. Individuals' accounts are divided into accounts with a high balance amount and a low one depending on the fact whether the account balance exceeds $1m as of the year-end or other reporting period. Information is to be provided in respect of both the accounts, but different procedures for identification of the tax residency are applied. To identify the tax residency of the account holder with a high amount of account balances, an account manager is engaged. In respect of legal entities' accounts, a threshold value of $250,000 is set. In terms of CRS, it is a financial institution's right and not an obligation to provide the information on legal entities' accounts with a low amount of account balances.

Russia joined CRS MCAA as early as 2016, having declared its intention to carry out the first exchange of information in 2018 for the 2017 reporting year. This year, Russia is going to exchange information for the 2017 reporting year with Liechtenstein, the Isle of Man, Mauritius, Singapore and other. In 2019, the exchange of information for the 2018 reporting year will take place with Switzerland, Malaysia, Pakistan and Lebanon, while in 2020, with Saint Lucia for the 2019 reporting year. With some countries (the Cayman Islands, France, Ireland, Luxemburg, the Netherlands and other) the exact date is not defined yet, while with Canada, Israel, Panama and Bahrain no agreements on the information exchange have been reached.

However, the law setting the responsibilities of financial market institutions (credit institutions, securities market professional participants, investment funds and other) was adopted in Russia only late last year. The law sets the base definitions of the international exchange, reporting requirements to financial market institutions and liabilities for violation thereof. A financial market institution's failure to provide information on time involves a penalty of Rb 500,000, while that to provide information in respect of one customer, a penalty of Rb 50,000. The reporting requirements must be set by the RF government resolution on direct implementation of CRS and approved by the RF Central Bank. The draft resolution of the RF Government on Implementation of the International Automatic Information Exchange for Tax Purposes was placed for public scrutiny on December 29, 2017. It suggests development of formats for providing the Federal Tax Service's information; otherwise, it is infeasible to ensure a unified application of the rules. In compliance with the draft resolution, the Federal Tax Service is required to develop information exchange formats until April 1, 2018.

4. THE MOVEMENT OF INDUSTRIAL PRODUCTION INDICES IN 2017: THE SAME TRENDS PERSIST

A. Kaukin, E. Miller

In early 2017, the movement of indices in the majority of industries continued to display the trend observed in late 2016 – that of a low positive growth rate. At mid-year, there was a slowdown in the production growth pattern and its downward slide towards stagnation. Over H2, the trend component in the extractive industry pointed to a decline in Q3. The movement of the trend components across several sectors of the manufacturing industry demonstrated some growth, which was still insufficient to push manufacturing production, overall, upwards from its zero growth rate[1].

Q1 2017: A Switchover to the New Classifier[2]

The results of decomposition of the corresponding time series, performed in order to remove the trend component of industrial production indices[3] by the Gaidar Institute experts in their own calculations based on *Rosstat*'s official methodology[4], imply that the available industrial production statistics should be interpreted with caution due to lack of access to relevant metadata. The movement pattern of the trend component of the available industrial production indices (*Fig. 1)* points to the persistent presence, in early 2017, of the same trends as were observed in late 2016: slight increase in production volumes and close-to-zero rates of growth displayed by the majority of industries. The growth revival observable in the chemical industry could be explained by its products being sufficiently competitive, thanks to an increased inflow of government and private investment designed to fund the modernization of old production capacities and the creation of new ones, coupled with the favorable situation on world markets. A similar growth was noted in the rubber and plastic products manufacturing sector. A certain production growth could al-

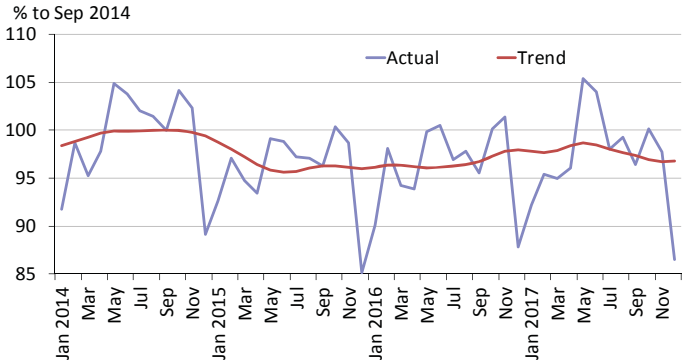

Fig. 1. The Movement Pattern of the Industrial Production Index in 2014–2017

Source: Rosstat; own calculations.

1 The authors should like to thank M. Turuntseva and T. Gorshkova for their help in statistical analysis.

2 A. Kaukin, E. Miller. Rosstat's New Methodology and the By-industry Movement Patterns of Production Indices in Early 2017 // Russian Economic Developments. 2017. No. 6. P. 29–34.

3 The trend component was removed by using the Demetra software package based on X12-ARIMA.

4 From 2017, in its releases of industrial production indices, the Federal State Statistics Service (Rosstat) switched over to the new version of the All-Russian Classifier of Economic Activities (OKVED 2), which caused certain problems with calculations. Official Industrial Production Index Calculation Methodology / Federal State Statistics Service: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/industrial/#

so be seen in the food industry and the machinery & equipment manufacturing sector. It had been observed since late 2016, and could be explained by direct government subsidies.

April–September 2017: Continuing Stagnation

At mid-year, the characteristic developments was the USD-to-ruble exchange rate's climb from RUB 56.95 in May 2017 to RUB 59.61 in August, and a similar climb of the price of oil from $ 50.29 to $ 52.38 per barrel over the same period. The growth trend, which began to be demonstrated by some of the industrial production components at the year's beginning, failed to strengthen over the next few months: in Q2 2017, the trend component pointed to a slowdown, or even sometimes a slight decline (*Fig. 1*). In Q3 2017, the situation characterized by the persistent movement in opposite directions, over the past few years, of the trend components in the manufacturing and the extractive industries finally changed, the extractive sector demonstrated a slight drop due to the reduced oil production resulting from the prolongation of the agreements with the OPEC, which Russia had supported[1].

The manufacturing industry during that period was stagnating, its output index hovering around a certain equilibrium value in response to the slight changes in the market situation in some of its segments. Output growth was observed in metallurgical production due to the favorable international and domestic market situation characterized by the buoyant and rapidly growing world steel market in conjunction with high demand in the domestic market, the latter sustained primarily by the building construction sector (and in particular by major construction projects like the Kerch Strait Bridge, the *Power of Siberia* gas pipeline, etc.), and machinery & equipment manufacturing, where the trend component had been sustained by one-time support measures delivered by the government. In September 2017, robust growth continued in chemical production (127% relative to

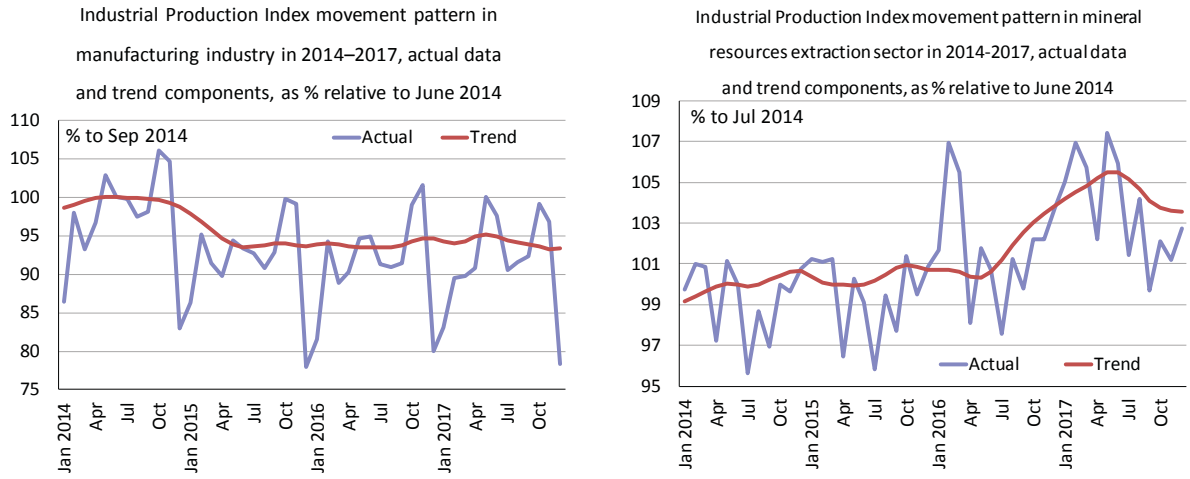

Fig. 2. The By-sector Movement Pattern of the Industrial Production Index over the Period 2014–2017, Actual Data and Trend Components

Source: Rosstat; own calculations.

1 A. Kaukin, E. Miller. Russian Industry in Mid-2017. // Russian Economic Developments. 2017. No. 9 P. 29–32

July 2014, and 108% relative to December 2016), and in manufacturing of rubber & plastic products (106 and 104% respectively)[1].

On the whole over that period, in the majority of industries there was no significant transition towards a positive growth rate, the increased output noted in some of them having occurred in response to current changes in the market situation. Besides, the volume of investment across the manufacturing industry declined, with the exception of the sectors oriented to consumer demand and infrastructure projects.

Q4 2017: Uncertain Prospects

Our analysis of the movement pattern of the trend components of the Industrial Production Index (as well as the aggregate output indices in the manufacturing industry and in the mineral resources extraction sector) in Q4 2017 points to their near-zero growth rates[2]. The data presented in *Table 1* demonstrate that the Industrial Production Index in the mineral resources extraction sector was 99.7% in December 2017 relative to December 2016, when output had been on the rise prior to the coming into force of the agreement with the OPEC (1 January 2017). On the whole over the year, the volume of oil extraction shrank by 0.3%, that of natural gas increased by 8.7%, and that of coal – by 6.4%, and their input became the main component of growth for the entire extractive industry (by 2.0% in 2017)[3].

All of the bigger components of the manufacturing industry were stagnating in Q4: production of coke & petroleum products – for the same reason as oil extraction; metallurgical production – because of the shrinking output of nickel and lead. Significant growth was displayed by the sectors oriented to the production of goods designed to satisfy domestic final demand: production of foodstuffs, including beverages, and tobacco products; textiles & textile products manufacturing; leather production and leather products & footwear manufacturing. While growth in the former occurs due to the large quantity of carried-forward inventory of agricultural products and to import substitution, the other two rely on the implementation of preferential leasing programs in the framework of light industry modernization and on the orientation of part of their supplies towards exports.

In spite of the increasing exports of the products of foreign automobile manufacturers against the background of weak domestic demand, the trend component of transportation equipment manufacturing has been indicative of a decline. This happens, most likely, because it is mostly equipment components (punched usable parts, components of the drive and braking systems, lighting system equipment) that are being exported. These products take up a relatively small share in the automotive industry's total output, compared with the output of all the other types of transport means: manufacturing of watercraft, aircraft, etc. (this commodity group, according to data released by *Rosstat*, demonstrated a significant plunge over the last two

1 A. Kaukin, E. Miller. Russian Industry in Q3 2017. // Russian Economic Developments. 2017. No. 11 P. 37–40.

2 The main inputs to the 1.5%-growth of year-end GDP were made by the following sectors: commerce; transport; IT and communications; activities in the fields of culture, sports and recreation.

3 On industrial production in 2017. The production index movement by type of economic activity // Federal State Statistics Service (Rosstat) 7 February 2018. See [http://www.gks.ru/bgd/free/B04_03/IssWWW.exe/Stg/d03/7.htm]

Table 1

BY-INDUSTRY MOVEMENT OF THE INDUSTRIAL PRODUCTION INDEX, %

	Share in industrial production index, %	December 2017 on July 2014	December 2017 on December 2016	Changes over recent months
Industrial production index		96.85	98.79	stagnation
Extraction of mineral resources	34.54	103.67	99.70	stagnation
Manufacturing industries	54.91	93.42	98.66	stagnation
including:				
Production of foodstuffs, including beverages, and tobacco products	16.34	110.77	104.88	slow growth
Textiles & textile products manufacturing	1.14	110.20	120.17	growth
Leather production and leather products & footwear manufacturing	0.27	96.10	103.50	growth
Timber & wood product processing	2.02	104.88	102.64	growth
Cellulose & paper production	3.35	70.42	79.96	decline
Production of coke & petroleum products	17.25	98.44	100.81	stagnation
Chemical production	7.56	133.05	108.23	growth
Manufacturing of rubber & plastic products	2.14	108.18	106.17	growth
Manufacturing of other non-metallic mineral products	4.02	89.55	105.30	growth
Metallurgical production & finished products	17.42	101.51	108.20	stagnation
Machinery & equipment manufacturing	6.97	95.86	103.63	growth
Electric, electronic & optical equipment manufacturing	6.27	82.48	91.35	decline
Transportation equipment manufacturing	6.75	73.38	90.83	decline
Other industries	2.42	122.57	136.18	growth
Electric energy, gas and water	13.51	99.68	99.30	stagnation

Source: Rosstat; own calculations.

months of 2017 relative to the corresponding periods of the previous year: by 83.7% in November, and by 85.5% in December).

Our analysis of the trend components of the Industrial Production Index revealed growth in several sectors of the manufacturing industry over the course of the last three months of 2017. However, due to their modest share in total output, the overall Industrial Production Index pointed to a near zero growth rate. It should be noted that the technical specificities of the seasonal adjustment algorithms produce some index distortion at the right-hand side of the analyzed time series, which recede in the older databases ('tail-wagging' effect). This means that the results of calculations for the last few months should be interpreted with caution: when later statistical databases become available, the calculations will need to be properly adjusted. Consequently, the possibility to reliably assess the effectiveness of government measures undertaken in 2017 in order to sustain industrial production growth is expected no sooner than mid-2018.

5. DOES RUSSIA FACE POTATO SHORTAGE

N.Shagaida

The reports which were made public late in 2017 and early in 2018 on a decrease in potato output in the Russian Federation and substantial growth in potato imports do not reflect the actual state of things. Potato output is still at the average multi-year level. Despite some price rises, potato prices remain low. They are unable to instigate the food inflation because the share of potato is insignificantly low in the cost of the food basket.

Late in 2017 and early in 2018, a few alarming reports on and estimates of potato output were made public. In particular, in its review the Central Bank of Russia (CBR) noted that the output of vegetables and potato had decreased (as of November 1, 2017) and "that might lead to a seasonal shrinkage of the supply of low-price domestic products".

In January 2018, the RF Accounts Chamber declared at its meeting that "according to the results of All-Russian Agricultural Census-2016 which established that in the past 10 years the size of potato cultivating area under households' farms decreased 1.7 times, while the number of households' farms fell from 22.2m units to 18.7m units potato output volumes might shrink and eventually produce a negative effect on the self-sufficiency of the Russian Federation". Also, it was stated that "according to the estimate of the RF Ministry of Agriculture in 2017 the country's self-sufficiency in potato would amount to 90.7% against the threshold minimum of 95% set by the RF Food Security Doctrine".

The same can be said about the Rosstat's information on potato imports. In January–October 2017 they grew up to 196% over the level of 2016.

Is There Any Cause for Concern?

With the above taken into account, it is necessary to point out the following:

Firstly, in 2017 the potato output reduction was not critical (*Fig. 1*). For example, in 2013 potato output actually decreased, but there were no shortages.

The 2017 gross potato yield is quite within the range of average data series (by five-year).

Secondly, in 2017 imports growth was not a cause for concern. Actually, according to the Rosstat's online data, in January–October 2017 potato imports amounted to 196% on

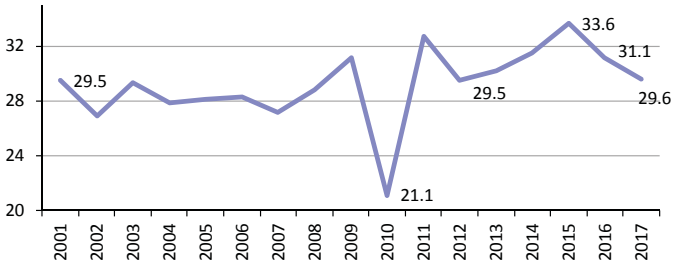

Fig. 1. Gross potato yield produced by all the categories of farms, million tons

Source: The Rosstat.

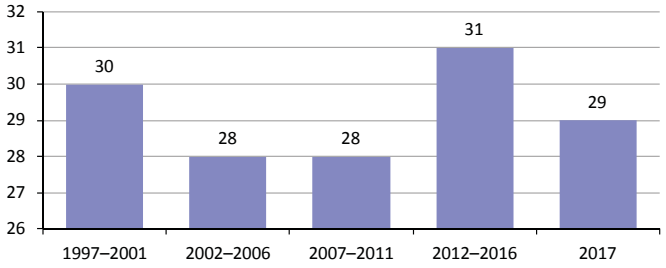

Fig. 2. Average five-year data on gross yield and gross yield in 2017, million tons

Source: The Rosstat.

the relevant period of the previous year. But this growth looked substantial only on the backdrop of a dramatic shrinkage of imports in 2016 when they amounted only to 50% relative to 2015 (*Table 1*).

Table 1

THE DYNAMICS OF POTATO IMPORTS (NEW AND REFRIGERATED POTATO), JANUARY–OCTOBER 2015–2017

	January–October		Year	
	Thousand tons	% change compared with the previous period	Thousand tons	% change compared with the previous period
2017	544	196,2	772	105
2016	276	50,8	737	79
2015	543	80,1	928	89

Source: The Rosstat, information on operational issues.

In addition, the imports volumes were insignificant as compared to domestic output that they can hardly be taken into account: the ratio of the import-export balance to domestic output exceeded 3% only in individual months. In 2016 (the last year on which all the statistical data is available), the indicator stood at 1.4%[1].

Russia imports potato not because it is in short supply or there is a lack of storage facilities[2]. They import new potato in the season when they do not have it in Russia. The main suppliers are Egypt and Israel. In January–March 2017, Russia imported 42,000 tons of potato, while in January–June, 521,000 tons. It is new potato for sale at a high price and it is imported regardless of the available volume of domestic output, but only because there is solvent demand. Higher potato imports in 2017 can be explained by growth in retail sales which used to fall every year from August 2014. In 2017, solvent demand started to grow amid appreciation of the rouble.

Thirdly, it is necessary to estimate the actual extent and the specifics of the dependence of the supply on the output of households' farms. According to the Rosstat's data (before publication of the results of the All-Russian Agricultural Census – ARAC-2016), in 2016 households' farms accounted for 77.9% of the gross potato output. If the size of the areas in crops identified during ARAC-2016 is nearly 1.7 times different from that declared by the Rosstat, it may appear that the country may face potato shortages. However, to make final conclusions it is important to take into account the following:

- There is no sufficient statistics on the sector of households' farms. The Rosstat receives the data on the size of areas in crops from the so-called logbooks of rural settlements. The information is provided by

1 It is asserted that there is strong correlation between output and imports. http://ikar.ru/lenta/630.html However, imports are so insignificant that despite the logic of such a statement it is incorrect which fact is underpinned by the statistics. It was established that in 2000-2016 the correlation was weak (0.20). A somewhat higher correlation was registered between the volumes of output and exports (0.28). It is obvious that in case of an open market for exports (specifically, new potato) the exchange rate of the rouble matters.

2 https://www.agroxxi.ru/analiz-rynka-selskohozjaistvennyh-tovarov/import-kartofelja-v-rf-v-2015-2017-godah-osobennosti-i-tendencii.html Potato imports from abroad to the Russian Federation are of seasonal nature. In autumn, potato prices are lower and the domestic potato is competitive on the internal market. For the above reasons, food potato is not virtually imported in Russia in autumn. However, from February potato shortages start to arise and prices go up. This leads to resumption of potato import supplies. See.: https://www.agroxxi.ru/analiz-rynka-selskohozjaistvennyh-tovarov/import-kartofelja-v-rf-v-2015-2017-godah-osobennosti-i-tendencii.html

individuals on a voluntary basis as of July 1. Note that individuals often overstate the size of areas in crops to prevent barren land plots to be withdrawn from them;

- A cautious attitude of those surveyed to ARAC can be explained by the fact that decisions based on ARAC results can be taken to modify income taxation of households' farms.[1] One still remembers how they tried to tax incomes received from the sale of the yield of apple-trees, garden current bushes and other. It is obvious that due to the above factors people may understate the size of areas in crops to prevent new taxes from being introduced, so the size of the actual area in crops can be much higher;
- Similar problems were identified during the ARAC-2006: according to the data of the Rosstat the size of the area in crops under households' farms was equal to 2,744,000 ha, while according to the ARAC data it amounted to 1,887,000 ha or one third less. At that time, the Rosstat dealt with that issue radically: it recalculated both the size of areas in crops and the gross yield not only for 2006, but also for the past ten years. As a result, the discrepancies between the data published in fact books before 2007 including and the data published later amounted to 30% in respect of one and the same years (*Annex 1*).

Those "backwards" calculations as regards the size of areas in corps and output should have led to recalculation of potato consumption volumes. But it did not happen because households' consumption is determined on a sample survey basis.

ARAC-2016 established that the size of potato cultivating areas at disposal of households' farms was equal to about 1,084,200 ha, while prior to processing of the census data it amounted to 1,709,100 ha.

Table 2

DISCREPANCIES IN THE SIZES OF POTATO CULTIVATING AREAS, THOUSAND HA

	Agricultural organizations	Farmers and individual entrepreneurs	Households' farms	Total
Areas in crops before processing of the ARAC-2016 data	195	149	1709	2053
Areas in crops according to the ARAC-2016 data	194	151	1084	1429
Deviation	1	-2	625	624

Source: The Rosstat.

According to the data presented in *Table 1*, it is getting clear why the Accounts Chamber expressed concern over the output reduction. If the yield was calculated by the Rosstat correctly, the published data on the 2016 gross potato yield of households' farm would be "reduced" from 24,244,000 to 15,396,000. If it is assumed that merchantability of households' farms remains at the level of 17.4%[2], after adjustment marketable potato of households' farms will amount to 2,679,000 tons (instead of the published data showing 4,262,000 tons). However, there are no grounds to believe that merchantability will remain at this level if the statistical agency adjusts the gross

1 At present, incomes received from sale of products of households' farms are exempted from taxation provided that requirements set to the size of a land plot and hired labor are met.

2 This indicator can be calculated on the basis of the Rosstat's data and the data provided in composite form No.1-KFKh.

output. If the Rosstat calculates commercial output adequately, the adjustment of the data on gross output will lead to recalculation of the merchantability ratio[1]. In any case, the new data will substantially modify the pattern of marketable potato producers.

Potato Consumption

It is not quite clear how much potato households consume. There is "A Balance of Resources and Use of Potato across the Russian Federation" (the Rosstat), in which personal consumption volumes are singled out. With the population size taken into account, one can estimate potato consumption per person a year. However, there are sampling surveys of households' budgets. According to them, the pattern of consumption is quite different: families consume half as much potato the food balance shows (*Fig. 3*).

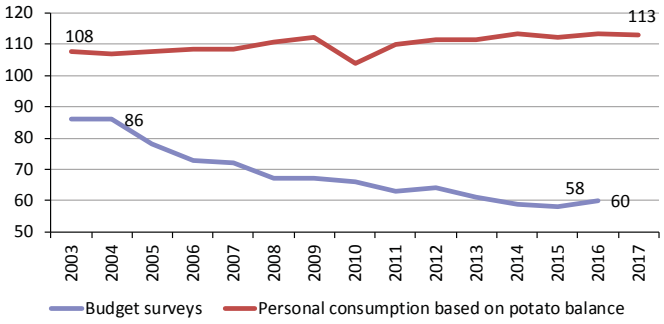

Fig.3. Potato consumption per person, kg/ a year (2017 – estimated data)

Source: The Rosstat.

It can be believed that 60 kg of potato a year is an understated figure because people may eat out. However, according to budget surveys expenditures on eating out account for less than 9% of the total expenditures on food[2] with the share of potato in food expenditures amounting from 0.7% with low-income families to 0.2% with better-off ones.

The Rosstat specifies in "balances" the volume of personal potato consumption at 15–16m tons. If one agrees that families consumed as much potato as specified in the survey's results, while in addition to that 4m people ate out and consumed "the rest", it means that each person out of 4 million people consumed 1.25 tons of potato a year, which is decisively unrealistic. So it is natural to ask whether those 15–16m tons of personal consumption stated by the Rosstat really existed.

If one proceeds from the fact that the data on the actual output of households' farms were properly specified or slightly understated in ARAC-2016, it is necessary to revise the food balance data and delete that nonexistent produce. Note that the market will have a sufficient supply of potato and even in case of abnormal consumption described above Russia requires only 11.3m tons and not 15m-16m tons for personal consumption.

There is No Dependence on Imports

If one correlates potato output volumes declared by the RF Ministry of Agriculture (29.6m tons) and the Rosstat's data on imports in January–October (544,000 tons) or declared but not yet published data on imports (772,000 tons), it appears that the country has enough potato at its disposal. The volumes of imports and outputs are within the standard range (*Fig. 4*).

The example of potato vividly illustrates inefficiency of the approach to estimate food security by means of a ratio, that is, the share of import pro-

1 If commercial output is calculated correctly, merchantability of households' farms will be recalculated and amount to 27.7% instead of 17.4%.

2 The value is overstated as it includes hotel expenses along with cafes and restaurants.

ducts in retail trade commodity stocks as prescribed by the RF Food Security Doctrine. Retail trade accounts for 31–26% of potato used for personal consumption (if judged by the potato balance) to 58–68% (if judged by budget surveys)[1]. It is to be noted that only in 2015 which was unfavorable in terms of households' incomes the share was higher. If dependence on imports is measured only by the amount of retail trade commodity stocks, it will be overstated because a huge volume of potato consumed by those who grow it is not accounted for. If one assumes that in 2017 consumption of potato was not higher than in 2016, nor did productive consumption, losses and exports increase as compared to 2016, the dependence on imports as regards the potato balance will amount to 2–3%. Dependence on imports can be discussed only in the context of seed potato, but it is another story.

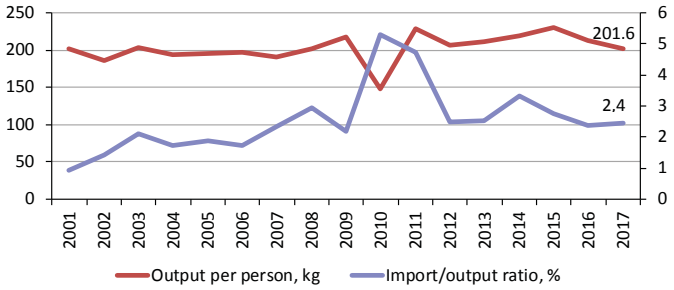

Fig. 4. Correlation of potato imports and outputs (left-hand axis, %) and potato output per person (right-hand axis, kg/ a year)
Source: The Rosstat.

Though prices of potato grow, it is a low-price product. There is a great temptation for food chain participants to increase the price of potato. As seen from *Table 3*, the consumer price surpasses the producer's price by 100%. All low-price products – potato, some vegetables and, particularly, onion – have a very high premium to the producer's price than meat, dairy products and other.

Table 3

ANNUAL AVERAGE PRICE OF POTATO, RB/KG

	Annual average prices		Correlation of consumer prices with agricultural producers' prices, %
	Consumer prices	Agricultural producers' prices	
2012	16.92	7.64	221.5
2013	23.58	9.45	249.5
2014	28.02	12.90	217.2
2015	28.17	13.20	213.4
2016	21.95	10.25	214.1

Source: The Rosstat.

A switchover of potato cultivation to commercial farms instigates growth in expenditures on special equipment, imported preparations and fertilizers. All those things are imported or Russian-made, but they are export-oriented (fertilizers). Consequently, the cost of production depends on the exchange rate of the rouble and "appetites" of suppliers. According to the Rosstat's research, correlation between producers' prices and production resources is the most unfavorable in potato farming. If in 2016 in agriculture on average it amounted to 99.5%, for potato breeders it was equal to 72.6%. With re-equipment of farms and introduction of new technologies, the yield will be growing and the unit cost will be decreasing, but if the correlation of prices is taken into account, it will be a difficult period for potato breeders.

1 Calculations are based on the data on the cost of potato in retail trade and prices as of the year-end (the Rosstat).

In spring and early summer 2017, growth in potato prices was related to supply of new and more expensive potato, particularly, from Egypt and Israel. Prices started to go down in July when Russian new potato appeared. As seen from the diagram, in December 2016 the price of potato was lower than the average price in 2013.

Table 4

PRICE INDEX, % CHANGE ON THE PREVIOUS YEAR

	2012	2013	2014	2015	2016	2016/2011
Potato breeders	57.2	117.4	129.6	105.7	76.4	70.2
Potato resources	107.3	108.6	105.9	115.1	105.3	149.5
Correlation of indices of producers' prices and purchases of industrial goods	53.3	108.1	122.4	91.8	72.6	

Source: Analytical note on "Dynamics of Agricultural Producers' Prices and Prices of Purchasing of Goods and Services by Agricultural Organizations in 2012–2016", the Rosstat.

Reports that Russia may face potato shortages could instigate price rises. However, Russian potato is absolutely competitive: according to the OECD's data in 2016 Russian producers' prices were 1.6 times lower than prices of the nearest potential potato supplier beyond the Eurasian Economic Union's borders and even within the EEU they were more competitive than prices of Belorussian suppliers.

It is clear that in the period when incomes fall the importance of potato grows. It is vividly illustrated in *Fig. 6*. Consumption of more expensive products shrank and consumers switch over to low-price products, including those which they could grow themselves.

The share of potato in the cost of the main food products consumed by households is equal to 1.8% (2016). Even substantial growth in potato prices will lead just to a small appreciation of the food product set.

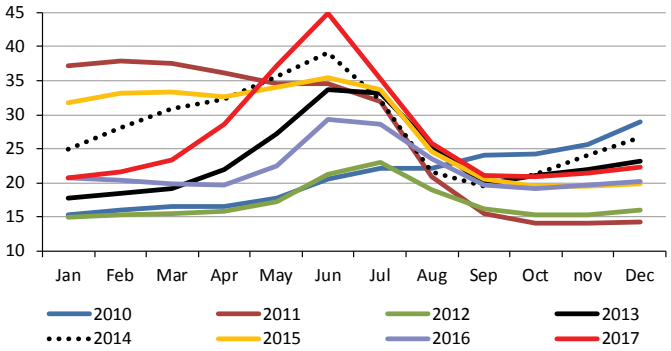

Fig. 5. Average consumer prices of potato, Rb/kg

Source: The Rosstat.

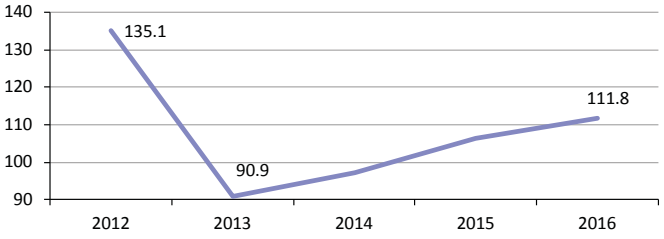

Fig. 6. The index of the physical volume of potato retail sales, % change on the previous year

Source: The Rosstat.

Speculations about growth in the rate of inflation in spring on the back of potato imports due to incomplete harvest in 2017 do not stand up to criticism. The share of potato in the retail trade commodity pattern amounts only to 0.4%[1]; if the share is calculated in food products, including alcohol and tobacco, it will be equal to about 0.7%.

1 The Rosstat, 2016.

Annex 1

Table P-1

ADJUSTMENT OF THE SIZE OF AREAS IN CROPS AND GROSS POTATO YIELD AFTER ALL-RUSSIAN AGRICULTURAL CENSUS-2016

	Initial data (according to statistical year books)	including:			Data adjusted after ARAC-2016	including:		
		Agricultural organizations	Private farms	Households' farms		Agricultural organizations	Private farms	Households' farms
Areas in crops, thousand ha								
1995	3409	370	41	2998	3409	370	41	2998
1996	3404	356	41	3007	3320	357	41	2922
1997	3352	312	40	3000	3184	313	40	2830
1998	3265	252	38	2975	3015	253	38	2723
1999	3256	232	36	2988	2921	232	36	2652
2000	3252	231	41	2980	2834	231	42	2561
2001	3240	221	43	2976	2740	221	45	2475
2002	3232	197	47	2988	2646	197	48	2401
2003	3194	175	53	2966	2531	171	55	2305
2004	3150	172	59	2919	2415	173	60	2183
2005	3075	154	58	2863	2277	154	59	2064
2006	2976	156	76	2744	2129	155	78	1896
2007	2863	161	84	2618	2069	162	82	1825
2008	2104	171	86	1847	2104	171	86	1847
Gross yield, million tons								
1995	39.9	3.7	0.4	35.9	39.9	3.7	0.4	35.9
1996	38.7	3.0	0.4	34.9	37.6	3.4	0.4	33.8
1997	37.0	2.4	0.4	33.8	35.1	2.8	0.4	31.9
1998	31.4	2.2	0.3	28.7	29.0	2.5	0.3	26.2
1999	31.3	2.0	0.3	28.8	28.0	2.2	0.3	25.5
2000	34.0	1.9	0.4	31.4	29.5	2.2	0.4	26.9
2001	35.0	1.9	0.4	32.4	29.5	2.2	0.4	26.9
2002	32.9	1.6	0.4	30.6	26.9	1.9	0.5	24.6
2003	36.7	1.8	0.6	34.1	29.4	2.1	0.6	26.7
2004	35.9	1.8	0.7	33	27.9	2.2	0.7	24.9
2005	37.3	1.8	0.8	34.1	28.1	2.4	0.8	25.0
2006	38.6	2.1	1.1	34.7	28.3	2.7	1.1	24.4
2007	36.8	1.9	1.2	32.8	27.2	2.7	1.2	23.3
2008	28.8	3.3	1.5	24.1	28.8	3.3	1.5	24.1

Source: The Rosstat.

Table P-2

THE COST OF THE MAIN FOOD PRODUCTS CONSUMED BY HOUSEHOLDS IN 2016 (ON AVERAGE PER HOUSEHOLD MEMBER A MONTH, ROUBLES)

	2015	2016
Brad products	783.2	860.3
Potato	127.5	109.7
Vegetables and gourds	574.3	621.6
Fruits and berries	528.7	581.2
Meat and meat products	1664.8	1753.5
Milk and dairy products	838.4	921.2
Eggs	100.8	108.6
Fish and fish products	375.2	414.2
Sugar and confectionery	356.8	394.4
Vegetable oil and other fats	81.2	93.9

Source: The Rosstat.

Table P-3

RETAIL TRADE COMMODITY PATTERN, IN ACTUAL PRICES,
% CHANGE ON THE RESULT

	2005	2016
All commodities	100	100
Food products, alcohol and tobacco	45.7	48.6
Other	5.1	10.4
Meat and meat products	10.4	8
Alcoholic beverages	9.6	6.8
Bread and grain and pulse products	4.1	4
Confectionery	2.7	3.5
Whole-milk products	1.9	2.5
Tobacco products	1.4	2.5
Fish and seafood	2.1	2.1
Fresh fruits	1.3	2
Green vegetables	1.3	1.5
Fat cheese	1.4	1.2
Sugar	1	0.9
Butter	0.8	0.8
Vegetable oil	0.7	0.7
Eggs	0.9	0.7
Tea	0.4	0.6
New potato	0.6	0.4

Source: The Rosstat.

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