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PROBLEMS AND PROSPECTS OF RUSSIA'S ECONOMIC GROWTH

This article examines the patterns of economic growth in Russia. It demonstrates that while the discussions focus on the problems of the short-term growth and the incentives therefor, the growth problems are more important in the long-term perspective. The article evaluates the future growth potential of Russia under various assumptions within the framework of standard methods of economic growth prediction. If the current tendencies persist, the next two decades will show a considerably lower growth of the GDP of Russia than within the previous 15 years, due primarily to the sharp decrease in the availability of labor. Besides, the better part of the potential for the increase in productivity is already exhausted. The growth of the GDP of Russia will stay below two percent per annum. Refs 25. Figs 6. Table 1.

Keywords: growth of Russian economy, total factor productivity, demographics.

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ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ РОСТА РОССИЙСКОЙ ЭКОНОМИКИ

В статье рассматриваются особенности экономического роста в России. Показано, что в то время как текущие дискуссии сосредоточены на проблемах краткосрочного роста и его стимулирования, более важными являются проблемы роста в долгосрочной перспективе. В работе приведена оценка потенциала будущего роста России в рамках стандартных методов прогнозирования экономического роста при различных предположениях. Если нынешние тенденции сохранятся, то в ближайшие два десятилетия темпы прироста ВВП России будут значительно ниже, чем в предыдущие 15 лет, составляя менее двух процентов годовых, что в первую очередь связано с резким снижением доступности рабочей силы. Кроме того, большая часть потенциала для повышения производительности труда уже исчерпана. Библиогр. 25 назв. Ил. 6. Табл. 1.

Ключевые слова: экономический рост, российская экономика, совокупная факторная производительность, демография.

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Introduction

Within the period between the two crises of 1998 and 2008, Russian economy recorded high rates of growth. The current recession followed the period of damping dynamic, the stagnation began even before the dramatic drop in the oil prices or the aggravation of the geopolitical situa-tion. The final adaptation of the economy to the new operational conditions (low prices for hydro-carbons, limited access to the global financial markets and new technologies) does not signify an immediate transition to the new wave of growth. At the same time, it is possible to estimate its potential rates in view of the available resources — cash funds and the availability of labor, as well as the change of the total factor productivity. The able-bodied population in Russia continues to decrease in a significant way, the fixed capital investments are still low and the future productivity dynamics remain uncertain. If these tendencies persist, the Russian growth potential — even in the most optimistic scenarios — is between 1–2 percent during the next two decades. It is lower than the predicted growth rates of the global economy, and will cause the decrease of the Russia's relative share in the global economy.

1. The change of the growth characteristics of the Russian economy

From 1999 to 2016, the Russian economy has finished two business cycles and is presently close to the beginning of the third. As obvious from the graph, the average annual growth rate for the period from 2000 to 2008 was 7.3%, from 2010 to 2014 — 3.5%.

1.1. Growth of Russian economy, 1999–2009. The favorable factors of accelerated growth

The nine years following the crisis of 1998 showed the highest rates in the post-Soviet his-tory. The reason therefor lies in a series of simultaneous favorable factors characteristic for that specific period, which fully or partially ceased to exist within the next cycle.

The crisis resulted in the lowering of relative costs and the increase of the price competitive-ness of the Russian-based production on the domestic market. The devaluation of ruble erected a protectionist barrier against import and lead to the expanded demand for domestic goods, and in the same time, the export taxes introduced in that period limited the growth of prices for the raw materials and electricity for the manufacturing industry. The jump in prices of the Autumn of 1998 lead to the lowering of real wages and, consequently, to the lowering of costs, by the end of the crisis the unemployment reached its maximal rate in the recorded history — 13.2% [Labour and employment in Russia, 2001, p. 162]. Large number of unemployed, who had lost neither their expertise, nor their working skills, created the conditions for the future output expansion.

By the moment of recovery, the economy possessed the reserves of productive capacity. The catastrophic drop of the output in the previous decade, despite the inequality of loss among the different sectors, created a considerable mass of underutilized equipment, which in conjunction with the excess of labor, cheap raw materials and the growing domestic demand created the favor-able conditions for the start of growth even in view of limited amount of net investments.

Another important circumstance was a well-balanced macro-economic policy of the Government, carried out at that time. Budget austerity and the implementation of the

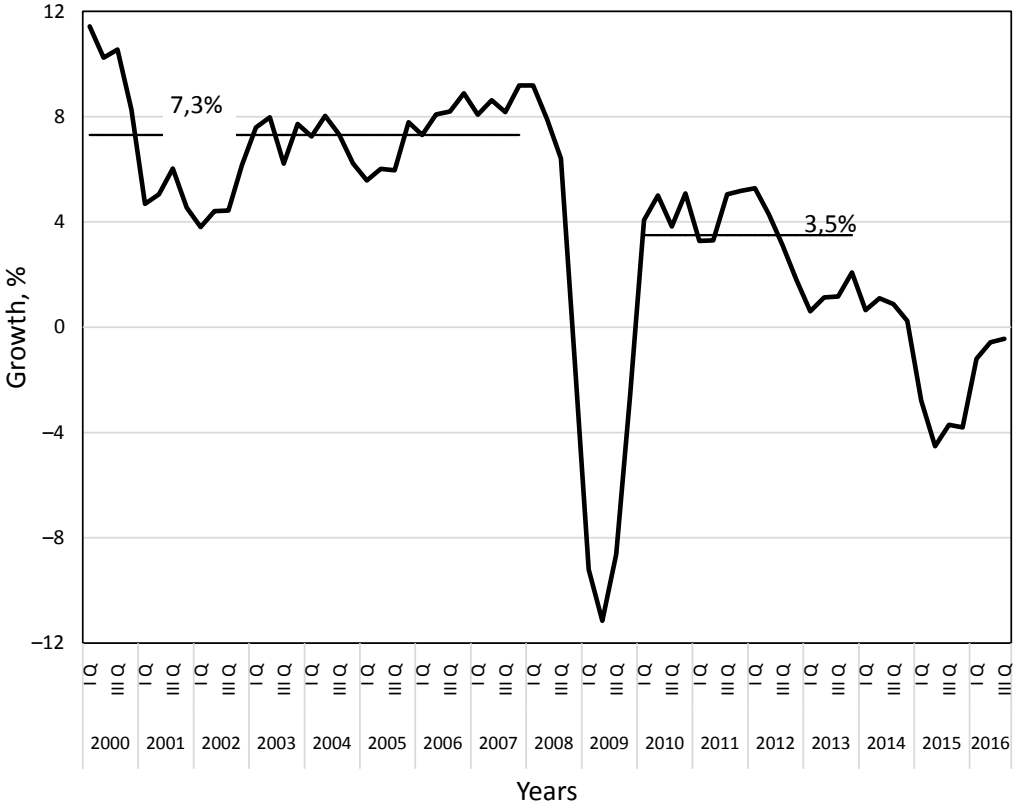

Figure 1. Russian GDP growth, 2000–2016, percent of corresponding period of previous year
Source: Rosstat. URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/accounts/ (accessed: 14.12.2016).

conditions of the newly adopted Budget Code lead to the gradual decrease of the inflation rate and ultimately to the financial recovery.

The economic growth was supported by the improvement of the economic situation in the global primary commodity markets, first of all, the energy markets. The average Brent price in the period from December 1997 through July 1999 constituted 12.6 USD per barrel, from August 1999 to April 2004 — 25.5 USD per barrel. Starting with April 2004 and until August 2008, the average monthly growth rate of the Brent prices was 2.6%. The prices of metals and other raw materials showed slower, yet also considerable growth. As a result, output growth within the export-orientated extractive industry happened at a quicker rate compared to that of the domestically orientated manufacturing industries, from which the whole growth-process had originally started.

The increase of employment and utilization of idle capacity into the production was accompanied by investments into new capacity technologies within the industries with the steadily growing demand, both export-orientated and targeting the domestic market. Furthermore, service sector grew vigorously. As a result, growth in total factor productivity (TFP) became an important component of the economic growth. Different economists give roughly similar estimates of the contribution of the total factor productivity into the

growth rate within this period. For instance, Voskoboynikov and Solanko (2014) think that within the period from 1995 to 2008 it grew by 2.5% per annum. Kuboniwa (2011) estimates TFP growth at 2.6% per annum in the period from 1995 to 2010. Drobyshevskiy and Sinelnikov–Murylev (2015), who evaluated the TFP for the period from 1999 to 2008 with according to the OECD method as the difference between actual GDP growth rate and its calculated value based on the actual data on labor and capital costs, revealed that the growth rate of TFP varied from 2.4% in 2002 to 6% in 2006.

The global crisis of 2008–2009 manifested itself in the Russian economy starting with the 4th quarter of 2008, when a series of interconnected events (the drop in oil prices, high external debts of the corporate sector, drastic increase in interest rate) lead to the decrease of the output: if in the 3rd quarter the growth had still constituted 6.4% of corresponding period of previous year, in the 4th one the economy was already declining at the rate of –1.3%.

1.2. The dampening growth within the 2010–2016 cycle. Transition from stagnation into recession

The period of post-crisis recovery did not lead to the restoration of the former growth rate. Moreover, though the prices for hydrocarbons rebounded (from March 2011 to August 2014 price of Brent crude oil didn't go below 100 USD per barrel, with the average for the period of about 110 USD per barrel), starting from 2010 the output growth steadily decelerated, reaching 0.6% by 2014. The Russian economy underwent the transition to stagnation despite the positive situation in the primary commodity markets and no serious geopolitical problems; namely, none of those circumstances to which people tend to attribute the current depression.

There are many explanations for the transition of the Russian economy from the high growth rate into stagnation, each of which presents its own considerably differing remedies for the current situation.

1.2.1. The decrease of the pace of investment growth

The slackening of this pace is connected to the investment pause that occurred as a result of the completion of a series of major projects (ESPO pipeline, Sochi Olympics, APEC summit) and lack of new causes for the extensive investments by public sector itself and the state-controlled corporations [Ivanter, 2015]. Excessive government control hampers development of the private sector, and at the same time, public sector does not solve the major tasks of investment in the infrastructure, which leads to the slackening of the economic growth [Grinberg, 2014]. Consequently, the decrease of growth rate is of a "technical" nature and might be gradually overcome with restoration of the volume of investments by the public sector. The peculiarity of the "procyclical" behavior of the Russian budgetary investment leads to the situation, where their decrease occurs exactly at the times of the economic slowdowns, further lowering the already decreasing demand.

On the other hand, the budgetary reflation in the situation of the decline in tax revenue and the budget deficit may lead to the breach of financial stability, build-up of the public debt and inflation. Accordingly, Idrisov and Sinelnikov-Murylev [2015] fear that by the using the fiscal policy for the purposes of short-term stimulation of the economic growth the Russian economy may slide into stagflation. Uluykaev and Mau [2015] also mention the limited potency of this measure for the short-term stimulation of the economy in the

face of the unsolved structural problems. They also argue that under the current conditions attempts to artificially promote growth may lead to wasting long-term growth perspectives and to stagflation. Increase in the budgetary investments in the current situation entails either growing deficit with unpredictable inflation con-sequences, or increase in the tax burden, with the following decrease of the investments on the part of the private sector.

On the other hand, the decrease of the investments undoubtedly lies at the heart of the stag-nation in the Russian economy. The lowering of the growth rate of real investments, which grad-ually slipped into actual decrease, started since 2011. The process has an almost linear character, which is apparent in Fig. 2. Rate of the decrease of fixed investments on the average is –4.2% per annum. By 2015, ratio of the fixed capital investment to the GDP had sunk to 18.9%.

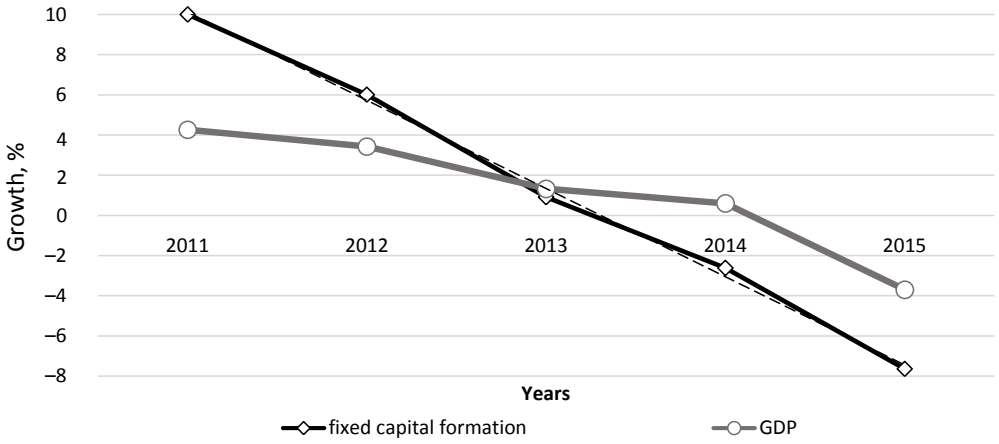

Figure 2. GDP growth and fixed capital formation growth (at constant prices; annual %), 2011–2015
Source: Rosstat. URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/accounts/ (accessed: 17.07.2016).

The contribution of the fixed capital investments had been low since the beginning of the global financial crisis, between 20.2% and 22% of the GDP. If for the developed countries such as the U. S. A., Great Britain, or Denmark, the low investment contribution in the GDP does not present a problem, for Russia it is a serious growth constraint. In this terms Russia ranks below 95 countries out of 147, for which we have the data for 2014, and especially below countries like China, India, the Czech Republic, Romania etc.) (Fig. 3).

In 2014 average GDP per capita of the countries with lower than in Russia investment contribution to the GDP constitutes 18,800 USD and their average rate of economic growth is 2.2%; for the countries with higher investment contribution to the GDP the corresponding values are 13,800 USD and 3.9%.

It is impossible to explain such an extensive process of the investment contraction by the decrease of the investments from the public sector, even given the considerable share of the state-controlled corporations in the Russian economy. Within the period in question, the contribution of budgetary funds into the fixed capital investments barely fluctuated and notably decreased only in 2015. Moreover, if the formation procedure for the program of the budgetary investment expenditures may be influenced by other considerations besides the economic logic, the decisions of corporations, whoever were their

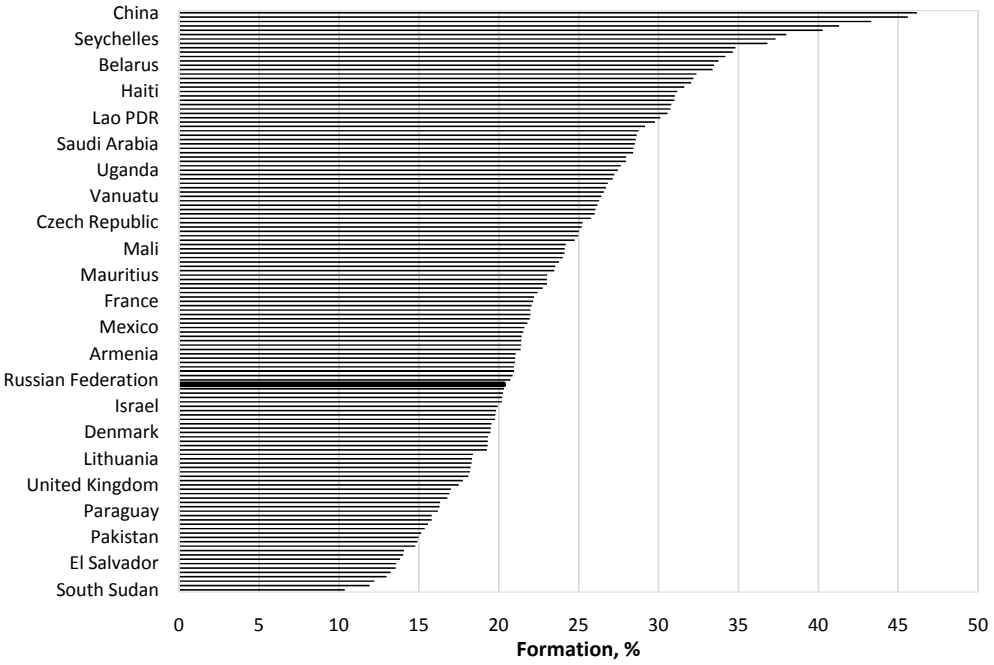

Figure 3. Gross capital formation (% of GDP) 2014

Source: World Bank. URL: http://data.worldbank.org/indicator/NE.GDI.TOTL.ZS/countries (accessed: 19.07.2016).

controlling shareholders, to a considerable degree depend on an anticipated yield from an investment projects and its risks. Obviously the combination of expected returns and risks has not been conducive for investments.

Among the factors explaining the reduction of investment in GDP is a substantial decrease in foreign direct investments (FDIs). This decrease derived from both economic processes themselves and increasing tensions between Russia and developed nations. Declining output, reduction of the inflow of currency earnings due to a bad state of the markets of hydrocarbons, and dropping real earnings of the population all formed an unfavourable environment for the arrival of foreign investors or expansion of their presence. In 2009, with a rather favourable foreign policy environment, the inflow of FDI into the Russian economy plunged more than twice, from USD 74.78 billion before the crisis in 2008 to USD 36.58 billion. The post-crisis FDI recovery to USD 69.22 billion in 2013 was followed by a new dramatic fall down to USD 22 billion in 2014 and USD 6.48 billion in 2015. Such a drastic reduction in the investment inflow into Russia is obviously caused not so much by economic as by geopolitical reasons. The capital was withdrawn through mergers and acquisitions (– USD 10.8 billion in 2014 and — USD 11.0 billion in 2015) as well as through the outflow of funds via debt instruments (–USD 1.07 billion in 2014 and — USD 3.87 billion in 2015). Apart from direct macroeconomic consequences, the reduction of FDI inflow leads to a limited availability of modern technologies coupled with a decreased potential for the growth of labour productivity in the medium and long run. Apparently FDI can recover only providing that the relations are normalised and sanctions in the financial sector are lifted.

1.2.2. Interest rates and money deficit. Is the monetary expansion necessary?

The slowing of the economic growth rate and the gradual transition to the stagnation can be explained by the mistakes in the existing economic and especially monetary policies. The limited money supply and the lowering of the aggregate demand causes the decline of the growth rate down to the stagnation of 2014. Low level of money saturation in the Russian economy and high interest rates leads to the decrease of the demand on the part of business and households and cause the dampening of the economic growth [Ershov, 2015]. The attempt to control the inflation through the money supply leads to the situation, where the interest rates for the real sector exceed the output profitability for all industries, except for the extracting, chemical and metallurgical industries [Glazyev, 2014]. The auster monetary policy leads to the tightening of the credit conditions and the lowering of the non-financial sector's share within the credit portfolio of the banking system [Altunyan, 2015].

The increase in the money supply within the period of the quick economic growth of the 2000s was a result of the influx of currency due to the favorable tone of the oil market and the Bank of Russia's policy of exchange rate targeting. In the next cycle, the situation has changed. The October 2011 marks the cease of growth of the international reserves, and in January 2014 they start to diminish, this being said, the share of the international reserves in the assets of the Bank of Russia has been falling since 2011 (Fig. 4). Consequently, the same period marks the change in the source of the emission of rubles, the growth of the contribution of the credits to the banking system in the assets of the Central Bank, and the lowering rates of money supply. The transition to the new model of securing the money supply causes the Central Bank to only cautiously increase the stock of money, fearing the accelerated inflation.

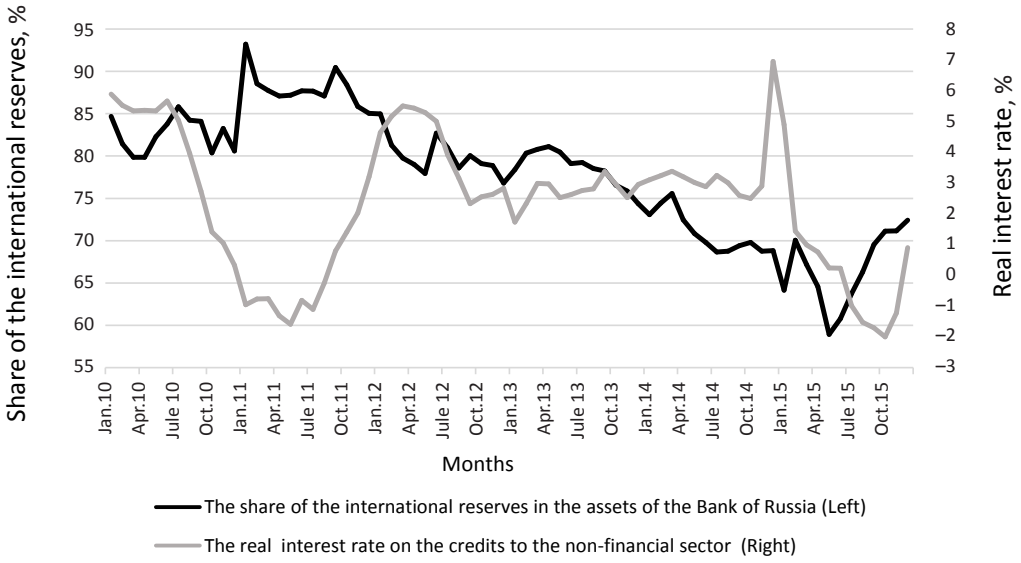

Figure 4. The share of the international reserves in the assets of the Bank of Russia and the real interest rate on the credits to the non-financial sector (2010–2015)

S o u r c e: Bank of Russia. URL: http://www.cbr.ru/statistics/?PrtId=macro_itm (accessed: 17.07.2016).

The real interest rate on the credits to the non-financial sector was calculated as the deflated, according to the consumer price index, interest rate on credits with period up to one year, which constitute 70–75% of all the credits to the non-financial sector. The negative effective interest rates of 2011 were caused by the relatively stable growth of prices in the situation of slowly decreasing interest rates. From December 2011 and up to the end of 2014 the effective interest rates were kept within the interval of 3–5%. Their abrupt upsurge in December 2014 was caused by the need to stop the devaluation of ruble, and the following decrease — by the acceleration of the inflation in view of slowly decreasing nominal interest rates. Presently, we can see the beginning of the new growth wave of the effective interest rates, since the dampening of the inflation is quicker than the decrease of the nominal interest rates.

The high effective interest rate on the credits to the non-financial sector limits their investment ability and dampens the growth, especially in comparison to the bankability of the competing corporations from the developed countries. At the same time, the increase of money supply through the credits to the banking sector raises serious concern in view of the unstable economic situation and the high inflation expectations. For instance, Goryunov et al. [2015] maintain that the main task of the Bank of Russia is the accumulation of the reputational capital for the shaping of the continuously low inflation expectation of the economic agents, and thus preserving the stability of prices despite the momentary shocks. In their evaluation of the monetary policy of the Bank of Russia through the actual cost of capital in the interbank market, they tend to describe it as too soft. Kudrin and Gurvich express a concern that the emission of money, while ensuring a short-term increase of growth, will lead to serious long-term losses due to the acceleration of the inflation, pressure on ruble, lower cost-effectiveness and the decrease of investments [Kudrin and Gurvich, 2015].

The reality of the current situation in the Russian economy is such that the Bank of Russia is the only possible source of the long-term money. The limited access to the global capital markets, the small capacity of the domestic bond market, the high interest rates and the tight conditions of the long-term credits to the real sector create the financial constraints for the investments, no easier to overcome than the bureaucratic problems or the insecurity of the rights of ownership. On the other hand, the monetary expansion should not lead to the overflow of the issued money into the foreign-exchange market or the increase of the credits to households. The mechanisms for the solution of this problem are already created and being used (refinancing of the credits for the in-vestment projects, a program of recapitalization of banks through federal loan bonds), but not on a scale comparable to the real sector's demand for the cheap investment credits. Even with all the inherent inflation risks, using the emission for the financing of the investments remains one the very few available sources for the growing rate of the recovery.

1.2.3. The fall in oil prices

One of the short-term factors of the slowing, and presently — a decline, of the Russian economy are the oil prices. Even the stabilization of the oil prices in 2011–2014 at around 110 dollar per barrel, which is close to the historical maximum of 2008, was already perceived as an explanation for the slowing of the rates of economic growth. Their further drop provoked the crisis of 2015–2016, though even now the oil prices are far from the minimal values of 1998. (The current price of oil corresponds to that of 2005, when

the growth rate was 6.4% per annum). Deryugina and Ponomarenko [2015] use a large Bayesian VAR model to assess the relative importance of various macroeconomic factors in explaining the short-run evolution of Russia's GDP. They find that the oil price in combination with EU demand is enough to forecast and explain most short-term variations in Russian GDP. According to their results, oil prices and the demand from the EU are sufficient for the prediction and explanation of the short-term fluctuations in the GDP of Russia. Rautava [2013] also notes a similar dependence on the price of oil, finds that Russia's trend growth halved to approximately 2% after the global financial crisis.

The income from the exported oil affects the Russian economy in a number of ways: from the fiscal revenue (more than 50% of the income of the federal budget before the sharp drop in the global oil prices); to the stability of the ruble exchange rate (as recently as in 2014 the hydrocarbons were responsible for up to 70% of the export earnings); to the investment costs of the oil and gas producers and the pipeline companies.

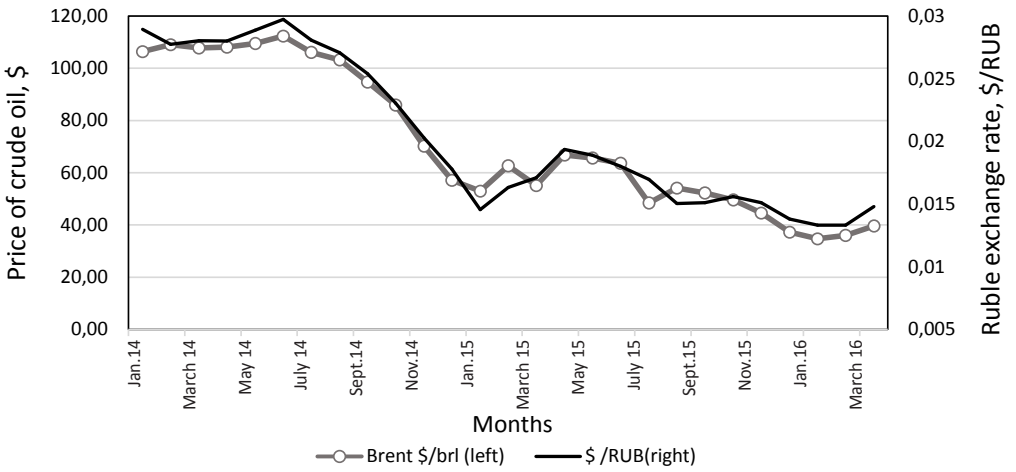

Figure 5. Price of crude oil in dollars and ruble exchange rate from January 2014 to March 2016
S o u r c e: Bloomberg. URL: https://www.bloomberg.com/quote/CO1:COM (accessed: 11.06.2016).

Figure 5 shows the close relation of the exchange rate of ruble to the oil prices. Despite the tumultuous geopolitical events of the spring of 2014, the inclusion of the Crymea and Sevastopol into Russia and subsequent sanctions, the Russian currency and financial markets remain relatively calm, while the ruble goes into a steep decline as the oil price plummets. The connection is reciprocal, of course. When price of oil stabilizes and recovers somewhat in February and March 2015, the ruble finds its legs. In summer 2015, when oil prices head down again, the ruble follows suit.

If price of oil only affected Russia's terms of trade, a floating exchange rate would be effective in helping the economy adjust. In Russia's case, however, it appears that the oil price is determinative of many things, including the willingness of foreign investors to fund projects in Russia. It seems that many Russian companies have difficulty in accessing global financial markets, and their foreign indebtedness is decreasing rapidly. For the public sector, Russia's sovereign wealth funds have provided a partial answer to this dilemma. During good times they mopped up budget surpluses. In the current situation, however,

these funds are being depleted. Obviously, Reserve Fund was set for exactly this purpose: to cover budget sector deficits in downturns.

The negative influence of the low oil prices on the growth of the Russian economy is obvious, and may be considered exogenous, something that cannot be influenced by the Government or its policies. The problem is whether under these new conditions the Russian economy can switch from stagnation into growth, and potentially form a diversified structure of production, which would be both resistant towards the outside shocks and adaptable to new environment.

1.2.4. The manifestation of the long-term factors, or is there a middle income trap in Russia?

Another explanation for the decrease of the growth rate of the Russian economy is the hypothesis that it has fallen into a "middle income trap". Unlike the previous explanations of the slowing growth rate, which connected this problem with factors of the momentary, short-term nature, the middle income trap is caused by the long-term factors of the institutional and structural character, whichs lead into lengthy stagnation period, wherein the preconditions for the future growth will be slowly forming. The term "middle income trap" appeared first in the work of Gill and Kharas [2007].

The phenomenon of abrupt slowing after a period of quick economic growth as the country's economy approaches that of the developed countries has occurred in the economic history on multiple occasions, primarily in Latin America. During the first stages of catching-up development, productivity can be quickly boosted by copying the existing models, technology transfer and low factor cost. Labor transfer from the informal sectors of employment into the formal ones, from the low value adding industries into the more effective ones ensures quick growth of the total factor productivity [Voskobojnikov and Gempel'son, 2015]. However, after a certain income level is achieved, further growth requires growing investments into the education, research and development, and building-up of the infrastructure, and thus growth rate experiences a sharp slowdown.

The limits of the "middle income", coming close to which is dangerous in terms of slowdown, considerably differ according to the different authors, which is also true for the choice of countries that can be considered to be in the "trap". Eichengreen, Park and Shin (2012) give the following definition of the level where there is danger of falling into trap: 17000 GK 2005 dollars of the GDP per capita with the 23% employment in the manufacturing industry, and 57% ratio of the GDP of the catching-up country to that of a leading country. One year after the same authors changed the limits somewhat by indicating several intervals, where the danger increases: 10–11 thousand dollars at 2005 PPP and 15–16 thousand dollars [Eichengreen, Park and Shin, 2013]. Cross-country analysis showed that the probability of transition from the quickly growing economy to stagnation increased at those specific values of the GDP per capita.

The Russian economy had approached the limits of the middle income already by the end of the previous business cycle, and factors slowing the economic growth in the "middle income trap" pertain to the characteristics of its current development. Loss of the low costs advantage and the problems with institutions ensuring the qualitative development, together with low diversification of the sectoral structure, left it vulnerable to outside shocks. Already in 1993, Rodrik [1993] pointed out the diversification of the economic structure and the presence of the skilled, highly paid labor as the conditions of the stable

growth of the moderately developed economy. Lack of the export diversification and the corresponding sectoral structure is being pointed out as the main reason for slowing of growth in the Latin American countries [Jankowska et al., 2012]. The above-mentioned article by Eichengreen et al. [2013] gives the diversification of export as the main suggestion for the avoidance of the "middle income trap". "The slowing less often occurs in the countries, where the population has a high level of education and where the contribution of the high-technology products in the export is relatively high".

Process of economic diversification requires a sustained effort, stable investments, and institutional changes, creating the necessary investment environment. Currently some characteristics of Russian economy fall short from these prescriptions. According to ironic words of Mirkin [2016]: "We can positively conclude: we have escaped it [the middle income trap] and now are heading straightly to the trap of poverty".

2. Growth in the long-term period

In this section, we assess Russia`s growth potential for the next two decades with a Cobb-Duglas function, writing (in logarithms) growth in GDP yt as a function of growth in labor supply lt and capital stock kt. In addition, an increase in total factor productivity at may boost economic growth by allowing more efficient ways of combining labor and capital (often with more advanced technology, but also "soft" infrastructure improvements such as organizational innovations). The labor share in total output with 6 and capital share is denoted as β[1]. Thus, the Cobb–Duglas production function will look as follows:

$$yt = at + \beta lt + \beta kt$$

The able-bodied population in Russia has started to decrease. This trend, under otherwise equal conditions, tacitly lowers the GDP growth. Figure 6 shows the evolution of the structure of the able-bodied population of Russia (15–59; if the current statutory age of retirement of 60 years for men and 55 years for women remains unchanged) from 1950 to 2050. We took the "medium version" of the UN prognosis for 2015–2050.

Figure 6 shows the evolution of the structure of Russia's working age population (15–59; Russia's official pension age is still 60 for men and 55 for women) from 1950 to 2050. Forecasts from 2015 to 2050 are the "medium variant" from the United Nations. While the accuracy of any demographic forecast decreases as the forecast horizon increases, we can predict the trend in the working-age population over the next 20 years quite well as almost all people who will be of working-age in this time have already been born. According to the UN prediction from July 2015, Russia's working-age population will decline from 90.7 million in 2015 to 78.7 million in 2035, which translates to an average change of –0.7% a year.

Estimating the capital stock of any country is fraught with difficulties, but these problems are accentuated in countries that underwent the transition from socialist command economies to market- based systems. Now that Russia is over two decades into its transition, however, there is some hope that Russia's capital stock can be estimated with a modicum of accuracy.

[1] Labor share of income is set to 0.65, which corresponds to Russian national accounts. The results were nearly identical when I also performed the same exercise with a labor share of 0.55.

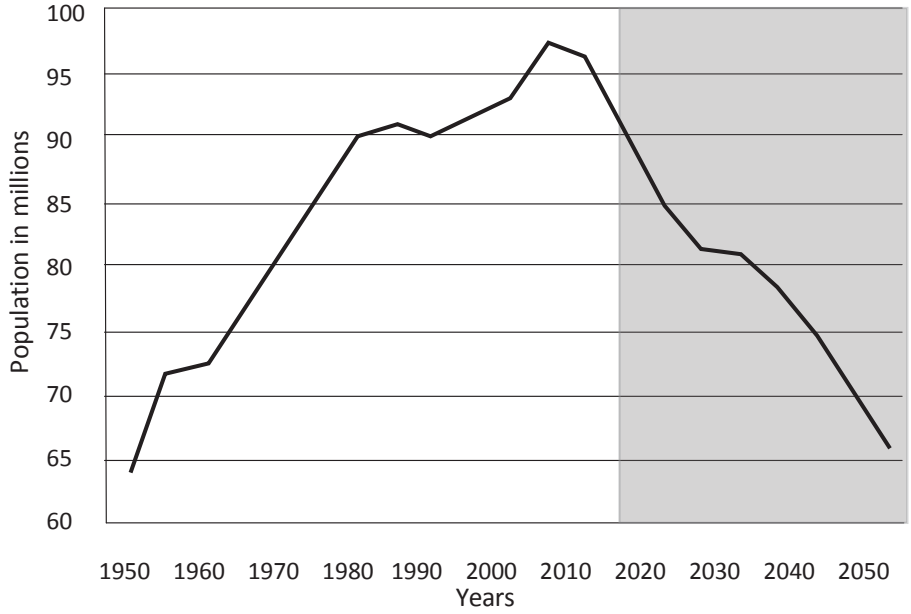

Figure 6. Working-age (15–59) population in millions
Source: United Nations. http://data.un.org (accessed: 22.04.2016).

Kaitila [2015] summarizes research on Russian capital stock development and finds that estimates of it vary considerably. In addition, for the period 2003-2012 he finds capital stock to have increased on average by 3.2% per annum. He also constructs four different scenarios for Russia's GDP growth between 2015 and 2030 with GDP growth rates ranging from 1.7% to 4%.

In the following exercise, we assume that Russia's capital stock expands by 1.5% per annum over the next two decades. (In an alternative "Low" scenario, I assume that the capital stock declines by 1% per annum for the next five years, due to Russia's restricted access to capital markets as outlined in the previous section.) This is slower growth than before the global financial crisis, but still presupposes resumption of investment growth.

As already mentioned above, the growth of the total factor productivity within the period of quick economic growth constituted about 2.5% per annum. Russian incomes have increased and the country is now closer to more advanced countries in terms of productivity, it seems reasonable to expect that TFP growth will decelerate in the future. Also, in the aforementioned studies TFP growth was found to decelerate towards the end of the data sample. In this exercise, however, TFP is assumed (perhaps a bit optimistically) will still grow by 1.5% per annum, even in the out years of 2031–2035. In the "Low" scenario, TFP growth is significantly lower during the next five years as Russian companies are unable to invest in new capital, which is often a prerequisite to boosting TFP.

With these assumptions, we formulate two scenarios of Russian GDP growth. In the baseline scenario, current geopolitical tensions have no negative effects on Russian economy in 2015 and beyond. In the "Low" scenario, Russia suffers from economic sanctions in 2015–2020. From 2021 on the two scenarios are identical in their assumptions.

Table 1a. **Baseline scenario of Russian growth**

	Labor, %	Capital, %	TFP, %	GNP,%
2015–2020	–1,2	1,5	2,0	1,7
2021–2025	–0,9	1,5	1,8	1,7
2026–2030	–0,2	1,5	1,6	2,0
2031–2035	–0,6	1,5	1,5	1,6

Table 1б. **"Low" scenario of Russian growth**

	Labor, %	Capital,%	TFP,%	GNP,%
2015–2020	–1,2	–1	1,3	0,2
2021–2025	–0,9	1,5	1,8	1,7
2026–2030	–0,2	1,5	1,6	2,0
2031–2035	–0,6	1,5	1,5	1,6

In 2035, Russia's real GDP under the baseline scenario is almost 45% higher than it is now. With an initial five-year period of less favorable development under the «Low» scenario, 2035 GDP is 32% higher than now[2].

Is this low or high growth? Between 2000 and 2008, Russia's real GDP expanded approximately 75%. Thus, it is fair to say that growth will be much slower than what most Russians have become accustomed to. But if policymakers can dampen expectations about growth, it is not a priori clear that even the "Low" scenario is particularly low. In any case, both of these scenarios imply that Russia relative contribution to global GDP is set to decline further.

The increase of the economic growth rate will be possible either on the assumption that the international trading situation is going to improve, which will influence the model through the increase of the total factor productivity, or as a result of a wide range of institutional reforms, targeting the shaping of the conditions for investments and economic diversification. Reaching the 4% growth rate under the condition of the restoration of the primary commodity markets back to their state in 2013 will require the 24% increase of the investment contribution to the GDP and the 2.8% annual growth rate of the fixed capital investments. These requirements together with the task of economic diversification presuppose a sharp increase of the investment activity of the private sector, which in its turn involves considerable changes in the investment environment and the credit system.

Conclusion

Current slow-down of economic growth presents only a part of a much more urgent and difficult problem of the long-term growth.

The active discussions going on now within the Russian expert community mostly concern themselves with the problems of the short-term growth. Whether it is practical to stimulate the output by the lowering of the nominal interest rate or not? How tight is

[2] The results would have been possibly more realistic, if one substituted the GDP growth rates within 2015 and 2017 with the current data and the forecast of September 2015. In this case, in 2015 the change of the GDP constitutes –3.7%, with –2% for 2016 and +1% for 2017. New data on the GDP growth would equally influence both scenarios.

the adopted budgetary policy and whether it is necessary to stimulate the output by the budgetary investments? Whatever the resulting decisions, they will influence the current growth rate. At the same time, some objective givens of this growth are outside the regulative influence of the Government, and should be included into the economic policy as the input restraints. Even if the current geopolitical tension were to disappear in a blink, the Russian economy stands to experience the relatively low growth within the next two decades. The lower growth rates in the nearest future may well be characteristic to the majority of the global economies, yet the slowing down in comparison to the annual growth rates of 2000–2008 may be something that is hard to swallow.

The other macro-economic characteristics affecting the growth may be influenced by the political decisions. For instance, the rate of investment may grow as a result of the institutional reforms, targeting the improvement of the business environment, the access to the global capital markets, and the improved work of the banking system.

The directions of the institutional changes are obvious and have been identified for a long time. Property rights protection is a prerequisite for the development of the business environment. The threat of asset withdrawal or of a deteriorating business environment especially strikes a blow to small and medium-sized enterprises, but, as the practice shows, even the largest corporations face the need of protecting their assets. Property rights can be guaranteed only through an independent and an effective court system. Consistent reduction of corruption at all levels of government power must contribute to maintaining competition. At the same time real changes are minor even during a crisis, and it is not obvious how they can be accelerated. A long-term sustainable economic growth is impossible without a favourable institutional environment which would foster active investment and human capital accumulation.

The increased competition will also promote the productivity. Potential improvement of the business environment and productivity will help Russia to diversify its economy and possibly increase the profitability of products and services.

While the Russian expert community acknowledges the problem of the dampening of the long-term growth, it is still difficult to prescribe any kind of measures in this regard.

References

Altunjan A. G. Prioritety monetarnoi politiki v kontekste natsional'nyh interesov [Priorities of monetary policy in the context of national interests. *Vestnik of Saint Petersburg University. Series 5. Economics*, 2015, issue 1, pp. 103–115. (in Russian)

Deryugina E., Ponomarenko A. A large Bayesian vector autoregression model for Russia. *Bank of Russia*. Working Paper Series N 1. March 2015. Available at: http://www.cbr.ru /eng/analytics/wps/wps_1.pdf (accessed: 03.08.2015). (in Russian)

Drobyshevskij S., Kazakova M., Sineľnikov-Murylev S. Dekompoziciia tempov rosta VVP Rossii v 1999–2014 godah [Decomposition of Russian GDP Growth Rates in 1999–2014]. *Economic policy*, 2014, no. 5, pp. 7–37. (in Russian)

Eichengreen B., Park D., Shin K. Growth Slowdowns Redux: New Evidence on the Middle-Income Trap. *NBER Working Paper № 18673*. January 2013. Available at: http://www.nber.org/papers/w18673.pdf (accessed: 03.02.2016).

Eichengreen B., Park D., Shin K. When Fast Growing Economies Slow Down: International Evidence and Implications for China. *Asian Economic Papers*, 2012, vol. 11(1), pp. 42–87.

Ershov M. V. Aktivnaia ekonomicheskaia politika: ochevidnaia neobhodimost' I sushhestvuiushhie stereotypy [Active economical policy: a clear need and existing stereotypes]. *Scientific papers the Free Economic Society*, 2015, vol. 191, no. 2, pp. 40–47. (in Russian)

Gill I., Kharas H. *An East Asian Renaissance: Ideas for Economic Growth*. World Bank, Washington DC, 2007. Available at: http://siteresources.worldbank.org/INTEASTASIAPACIFIC/Resources/226262-1158536715202/EA_Renaissance_full.pdf (accessed: 07.02.2016).

Glaz'ev S. Ju. Sanktsii SShA i politika Banka Rossii: dvoinoi udar po natsional'noi ekonomike [Sanctions of the USA and the Policy of Bank of Russia: double Blow to the National Economy]. *Voprosy Ekonomiki*, 2014, no. 9, pp. 13–29. (in Russian)

Gorjunov E., Drobyshevskij S., Trunin P. Denezhno-kreditnaia politika Banka Rossii: strategiia i taktika [Monetary policy of bank of russia: strategy and tactics]. *Voprosy Ekonomiki*, 2015, no. 4, pp. 53–85. (in Russian)

Grinberg R. S., Sorokin D. E. Kak perelomit' skladyvaiushhiesia negativnye makro-trendy? [How to reverse the evolving negative macrotrends?]. *Russian Economic Journal*, 2014, no. 1, pp. 12–18. (in Russian)

Idrisov G., Sinel'nikov-Murylev S. Biudzhetnaia politika i ekonomicheskii rost [Budget Policy and Economic Growth]. *Voprosy Ekonomiki*, 2013, no. 8, pp. 35–59. (in Russian)

Ivanter V. V. Politika ekonomicheskogo rosta kak glavnaia antikrizisnaia mera [Expansionary macroeconomic policy as a central anti-recessionary measure]. *Scientific papers the Free Economic Society*, 2015, vol. 190, no. 1, pp. 46–52. (in Russian)

Jankowska, A., Nagengast A. J., Perea J. R. The Product Space and the Middle Income Trap: Comparing Asian and Latin American Experiences. *OECD Development Centre Working Paper* (2012), no. 311. Available at: http://www.oecd-ilibrary.org/development/the-product-space-and-the-middle-income-trap_5k9909j2587g-en (accessed: 23.09.2015).

Kaitila V. GDP Growth in Russia — Different Capital Stock Series and the Terms of Trade. *ETLA Working Papers*, 2015, no. 28. Available at: https://www.etla.fi/wp-content/uploads/ETLA-Working-Papers-28.pdf (accessed: 27.06.2015).

Korhonen L. How fast can Russia grow? *BOFIT Policy Brief*, 2015, no. 10, pp. 1–13. Available at: https://helda.helsinki.fi/bof/handle/123456789/13976 (accessed: 27.06.2015).

Kuboniwa, Masaaki. The Russian Growth Path and TFP Changes in Light of Estimation of the Production Function using Quarterly Data. *Post-Communist Economies*, 2011, vol. 23(3), pp. 311–325.

Kudrin A. L., Gurvich E. T. Government Stimulus or Economic Incentives? *The Journal of the New Economic Association*, 2015, no. 2, pp. 179–186.

Kudrin A., Gurvich E. A new growth model for the Russian economy. *BOFIT Policy Brief* 1/2015. Available at: https://helda.helsinki.fi/bof/handle/123456789/13571 (accessed: 01.02.2016).

Labour and employment in Russia, 2001. Available at: http://www.gks.ru/wps/wcm/connect /rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1139916801766 (accessed: 17.07.2016).

Mirkin Ja. M. Saving forcing. *Expert — North-West*, 2015, no. 48–49 (720). Available at: http://expert.ru/northwest/2015/49/spasitelnyij-forsazh/ (accessed: 01.02.2016).

Rautava J. Oil Prices, Excess Uncertainty and Trend Growth — A Forecasting Model for Russia's Economy. *Focus on European Economic Integration Q4/13, Oesterreichische Nationalbank*. Available at: http://regconf.hse.ru/uploads/1723ca51a1c164ad4c2d590967c5d1836ebd3987.pdf (accessed: 21.05.2016).

Rodrik D. *Do Low-Income Countries have a High-Wage Option? NBER Working Papers*, 1993, no. 4451. Available at: http://www.nber.org/papers/w4451 (accessed: 01.06.2016).

Uljukaev A., Mau V. From Economic Crisis to Economic Growth, or how to Prevent the Crisis from Turning into Stagnation. *Voprosy Ekonomiki*, 2015, no. 4, pp. 53–85.

Voskobojnikov I. B., Gimpel'son V. E. Productivity Growth, Structural Change and Informality: The Case of Russia. *Voprosy Ekonomiki*, 2015, no. 11, pp. 30–61.

Voskoboynikov I., Solanko L. When high growth is not enough: Rethinking Russia's pre-crisis economic performance. *BOFIT Policy Brief* 6/2014. Available at: https://helda.helsinki.fi/bof/handle/123456789/12747 (accessed: 11.09.2015).

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