

Troubled Prospects of the Russian Economy Development: Forecast Using the Dynamic Input-Output Model

Baranov A.^{a,b}, Pavlov V.^{b,c}

- a) Novosibirsk State University, Novosibirsk, Russian Federation
- b) Institute of Economics and Industrial Engineering, Siberian Branch of Russian Academy of Sciences, Russian Federation
- c) Saint-Petersburg State University of Trade and Economics
baranov@ieie.nsc.ru, victor_n_pavlov@mail.ru

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1. Introduction

Forecasting results for the Russian economy development in 2015 – 2017 are analyzed in the paper. Econometric macro models and dynamic input – output model have been used in the projection calculations. Three main scenarios of Russian economy development are analyzed in the paper – basic, optimistic and pessimistic.

2. Main assumptions of the scenarios

Main assumptions of the basic scenario

1. In 2015, the average price of Urals oil is 57 \$US per barrel. It decreases in comparison with the average price in 2014 (96 \$US per barrel) by about 40%. Starting from the second quarter of 2015 will begin a smooth increase in oil prices: averaged value of oil prices in the second quarter will be 54 \$US per barrel, in the third quarter - 58 \$US per barrel and in the fourth quarter - 67 \$US per barrel. In 2016 -2017 will continue smooth increase in oil prices: in 2016 - by 19% or up to 80 \$US per barrel in the fourth quarter of 2016 and in 2017 - by 10%, or about 88 \$US per barrel in the fourth quarter of 2017 (see. Table 1).

2. The Central Bank of Russia since 2015, conducts more adequate monetary policy, contributing to the reduction of interest rates in the economy and stimulate economic growth. Monetary aggregate M2 in real terms in 2015 increased by approximately 10% (approximately equal to the rate of growth of real M2 in 2013). In 2016 and in 2017 the growth rate of real M2 is equal to 21.6% and 25%, respectively. Assuming that in the years 2015-2017. GDP deflator is equal to about 110%, the growth rate of nominal money supply is: in 2015 - 121.4%, in 2016 - 133.8% and in 2017 137.5%. Note that this rate of increase in nominal money supply in the

Russian economy is not unusual. In the period 2000 - 2007 years the growth rate of nominal money supply M2 has fluctuated between 34% to 60% (see Table 1).

3. Will not occur growth of the real exchange rate of the US dollar against the ruble in 2016. In other words, the average nominal exchange rate increases by about the same rate as the GDP deflator. In 2017 nominal exchange rate will be on the level of 2016 (see. Table 1).

Table 1. Main assumption of the forecast of Russian economy development in 2015-2017

Indexes	2013	2014	2015	2016	2017
<i>Average annual price of Urals crude oil</i>					
Basic scenario	108	96	56	73	82
The pessimistic scenario	108	96	43	48	53
The optimistic scenario	108	96	61	73	82
<i>The rate of growth of real M2, %</i>					
Basic scenario	109,3	99,1	110,8	121,6	125,0
The pessimistic scenario	109,3	99,1	101,3	106,3	110,0
The optimistic scenario	109,3	99,1	117,1	125,0	125,0
<i>The average nominal exchange rate of \$ (Rub/\$US)</i>					
Basic scenario	31,9	38,7	55,7	61,3	61,3
The pessimistic scenario	31,9	38,7	66,0	76,2	80,0
The optimistic scenario	31,9	38,7	55,7	55,7	55,7

Main assumptions of the pessimistic scenario

1. The price of oil on world markets continued to decline in the first quarter of 2015. As a result, the average price of Urals crude oil per barrel in the first half of 2015 is 40 \$US per barrel, while in the second half of 45 \$US per barrel. The next two years will be an insignificant growth in oil prices: an average of 10% per year (the average quarterly price of the fourth quarter to average quarterly price of the fourth quarter of the previous year). The average price of Urals crude oil in 2016 will be 48 \$US per barrel and in 2017 53 \$US per barrel (see Table 1).

2. The Central Bank of Russia continue to maintain a tight monetary policy and the real money supply M2 in 2015 does not increase, that is the nominal money supply growth rate

approximately equal to the value of the GDP deflator (see. Table 1). In 2016-2017 real money supply M2 increased by about 10% annually.

3. The Government of Russia, due to budget constraints holds a passive fiscal policy and not implements large-scale infrastructure projects or suspend their execution. In other words, is not realized version of stimulating economic growth through an increase in government purchases. Under this option the economy of Russia expects a prolonged slump. For three years the GDP of Russia's economy may be reduced by 25%.

It is an interesting pessimistic variant of the forecast in which the Central Bank use an active monetary policy to stimulate economic growth by substantially increasing the money supply (by 25% annually in 2015 - 2017). In this case, in the same oil prices fall in GDP over three years will amount to only 9% (see. Table 1).

Main assumptions of the optimistic scenario

1. In the first quarter of 2015, oil prices are on the average level of average prices in January this year - about 49 \$US per barrel. Starting from the second quarter of 2015 the average quarterly price of Urals oil will be 65 \$US per barrel, which corresponds to the forecast of the International Energy Agency at the end of 2015. Since 2016 the price of Urals oil begin to grow at the same rate as that of the basic variant: in 2016 by 19% and in 2017 by 10%. As a result, the average price of a barrel of Urals in 2016 will cost 73 \$US per barrel and in 2017 - 82 \$US per barrel. According to the dynamics of oil prices optimistic scenario differs from the basic due to faster growth in oil prices in 2015. As a result, the average oil price in 2015 in basic variant will be 56 \$US per barrel and in the optimistic scenario - 61 \$US per barrel.

2. The Central Bank of Russia moving away from inflation targeting and, following the example of the US Federal Reserve, as one of the main goals declares increase employment and hence economic growth. Real money supply grows at a faster rate compared to the base variant: in 2015 2017 by 25% annually. Increase in the nominal money supply, under the assumption that the value of the GDP deflator in each year of the forecast period equal to 110% will be 37.5% for each year of the forecast period. This rate of growth of nominal M2 is quite entered into the framework of its dynamics during the boom years at the beginning of the two thousandth years (see Table 1).

3. The Russian government has consistently pursued an active fiscal policy, implementing large-scale infrastructure projects at the expense of the Reserve Fund and National Welfare Fund and a moderate increase in public debt. It has a stimulating effect on economic growth.

3. Main results of the forecasting calculations and conclusions

For each scenario for the period 2015 - 2017 years forecast calculations were carried out using a 64 sectors dynamic input-output model of the Russian economy. In this paper we pay main attention only to macroeconomic indexes dynamics.

According to our forecast, in all variants of development of the Russian economy in 2015 is expected recession. Decline in GDP will amount to 3.2% (optimistic scenario) to 6.8% (pessimistic scenario). It should be emphasized that for a softer monetary policy when the growth rate of real M2 in 2015 will amount to 17%, and in 2016 - 2017 - 25% annually, can be substantially mitigate the negative effects of oil prices falling: the rate of GDP decline in 2015 - 2016 will be approximately 2,7-4.6% per year, in 2017 will begin a slight increase in the economy, and for the entire period the GDP will decline by about 6% (see table 2).

Particularly negative in the pessimistic scenario looks Forecast for investments in fixed assets when they fall for the entire period of 2015-2107 could be around 60%. Even in the base case, at a given dynamics of exogenous variables, investments in 2015-2017 will be reduced by 17.5%, which does not correspond to the plans of modernization of the Russian economy (see table 2).

Table 2. The growth rate of some key macroeconomic indicators of the Russian economy in 2014 - 2017 in accordance with different scenarios of the forecast, %.

Indexes	2014	2015	2016	2017	2015 – 2017
<i>GDP growth rates, %</i>					
Basic scenario	100,6	95,5	98,3	102,6	96,3
The pessimistic scenario	100,6	93,2	91,6	91,4	78,0
The pessimistic scenario in the conditions of stimulating monetary policy	100,6	95,4	97,3	101,4	94,1
The optimistic scenario	100,6	96,8	99,9	104,5	101,1
<i>Capital investment growth rate, %</i>					
Basic scenario	97,5	83,4	93,7	105,5	82,5
The pessimistic scenario	97,5	73,7	76,5	77,4	43,6
The optimistic scenario	97,5	85,5	100,6	108,4	93,2

Source: results of author's calculation using DIOM.

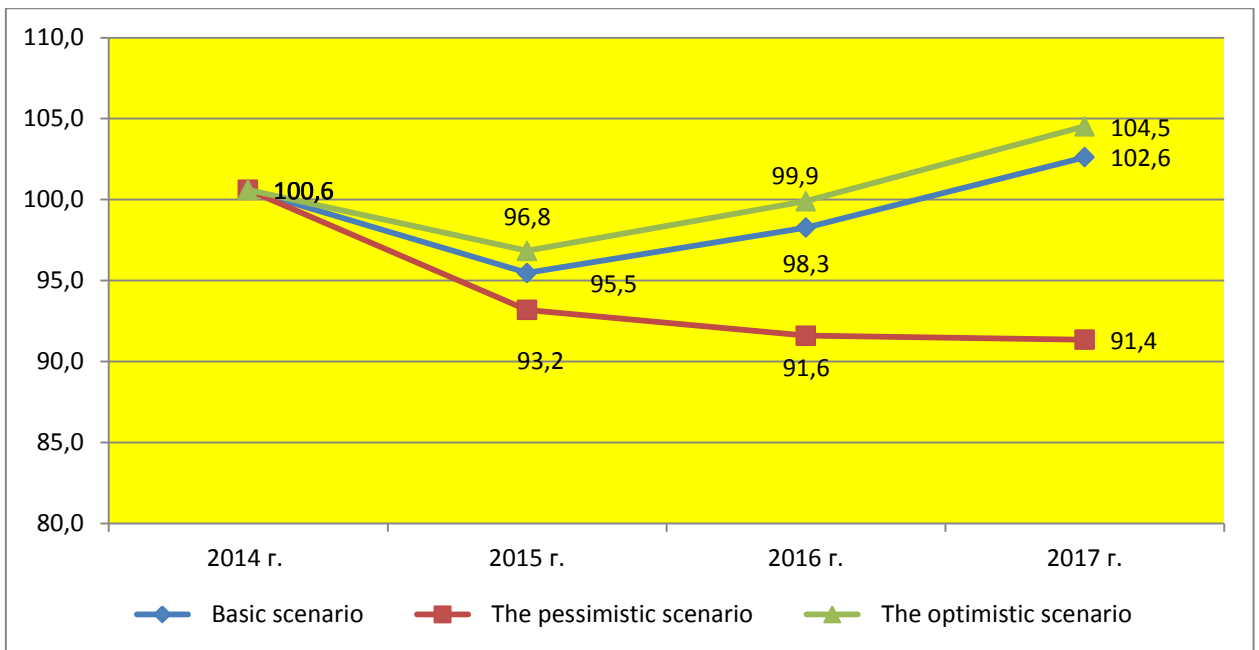


Figure 1. GDP growth rate of the Russian economy in 2014-2017, %.

Source: results of author's calculation using DIOM.

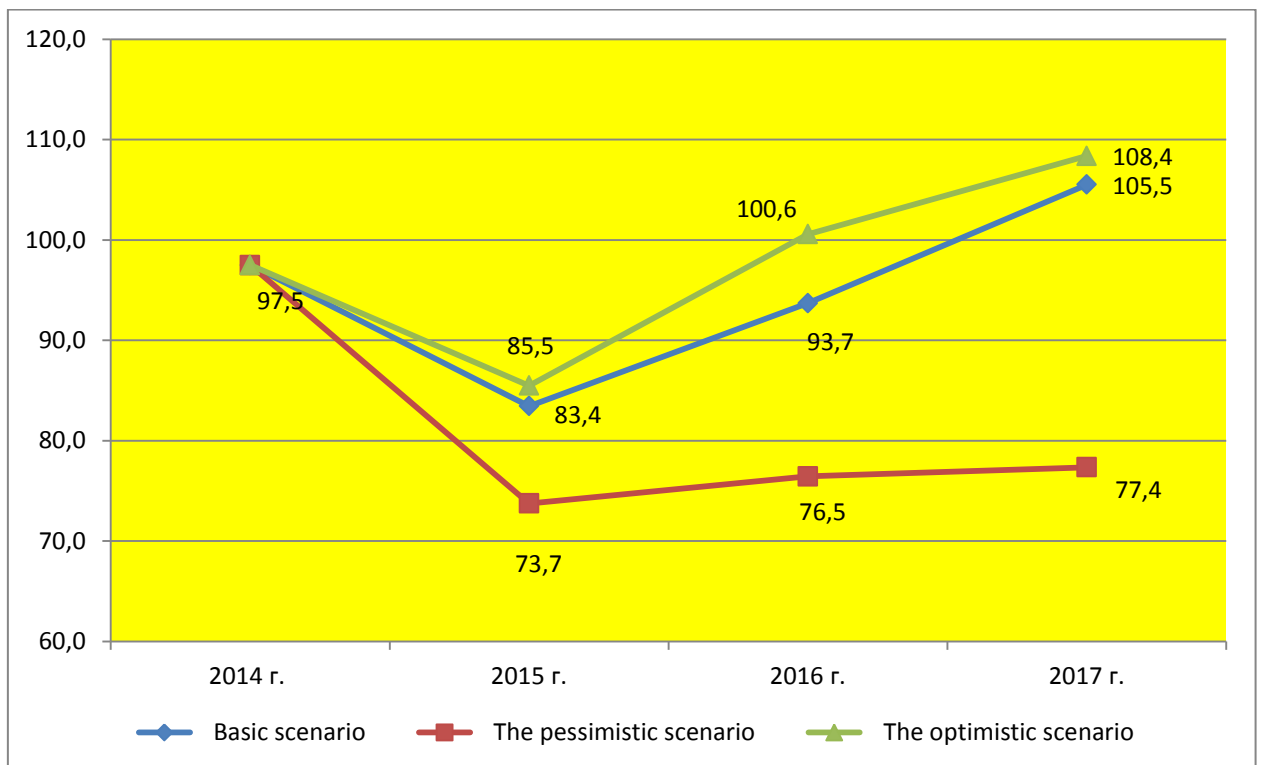


Figure 1. Investments in fixed assets growth rate in the Russian economy in 2014-2017, %.

Source: results of author's calculation using DIOM.

Conclusions

1. In 2015, with a high probability in the Russian economy can expect a significant decline in production. GDP reduction will range from 3% to 7%.

2. In conditions when the price of Urals oil will be a long time (2015-2017) within the range of 45 - 60 per barrel or below, in the absence of active stimulating economic policy, Russia will face a deep economic crisis with serious social consequences. Therefore it's necessary to take measures of fiscal and monetary nature, as well as improving the institutional environment for business, in order to stimulate economic growth.

3. Particularly problematic is monetary policy of the Central Bank of Russia, which has led to an increase in interest rates to, as declared, reducing inflation. Calculations show that inflation in Russia in the past 15 years, formed mainly by non-monetary factors (Baranov A.O., Somova I.A., 2015, S. Glazyev, 2014, Sanctions of the USA and the Policy of Bank of Russia: Double Blow to the National Economy). Therefore, the rise in interest rates does not allow to achieve the objectives of inflation and leads to an even deeper decline in investment and aggravates the economic slowdown turning into a decline in production.

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