

Econometric forecasting of Russian GDP for 2023 under the sanctioned price cap on the Urals crude oil export

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Abstract

The 2023 has seen a significant increase in the sanctions pressure on Russia and Russian national economy from geo-economic and geo-political opponents. Such a pressure affected, in particular, the oil production and oil refining industries. From December 5, 2022, most Western countries introduced a price ceiling for the purchase of Russian crude oil (\$60 per barrel), and from February 5, 2023, on Russian petroleum products traded at a premium and at a discount to crude oil (\$100 per barrel and \$45 per barrel, respectively). Under these conditions, it is important to foresee what impact the above price and other sanctions will have on the dynamics of Russia's GDP and its growth. As a forecasting tool, we use the macroeconomic production function, where GDP depends on fixed assets, the level of their use, the labor and the world price of Urals oil, the values of which were selected in accordance with forecasts of the Bank of Russia and the Russian Ministry of Economic Development at the level of \$55 and \$65 per barrel (in 2010 dollars). The originality and advantage of this production function over many other forecast models are the following: firstly, its average ex-post forecast errors for 22 years ahead do not exceed 5,1%, and, secondly, over these years the direction of the dynamics of *ex-post* forecast GDP coincides almost everywhere with the direction of the dynamics of actual GDP, including during the crisis of 2009, sanctions pressure started in 2014 and the epidemic of the Wuhan coronavirus SARS-CoV-2 in 2020-2021. The results of econometric forecasting showed the following: at a price of \$55, the minimum growth rate of Russia's GDP will be – 1,1%, the average will be 0,2%, and the maximum will reach 1,6%. At a price of \$65, the minimum growth rate of Russia's GDP will be 1,7%, the average will be 3,1%, and the maximum will be 4,5%. Thus, according to our forecasts, the Russian economy will grow, instead of falling into recession as many geo-economic and geo-political opponents of Russia would anticipate.

Keywords: *econometric forecasting, production function, GDP, Russian economy, world crude oil Urals price, sanctions, external price cap, Russian crude oil export.*

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