



Bank of Russia

The Central Bank of the Russian Federation

On the impact of budget deficit growth on the Bank of Russia key rate

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The estimated budget deficit elasticity of the Bank of Russia key rate covered from the Reserve Fund amounts to about 1. Repercussions of additional budget deficit for inflation and interest rates die out several years after the shock. More aggressive public borrowing in the financial market ensures a less tight monetary policy in response to a fiscal policy shock.

To the extent that monetary and fiscal policies are interconnected, the agenda is expanded with issues of their coordination. This note presents quantitative estimates of the impact of fiscal policy easing, manifested through higher budget deficit, on the Bank of Russia's monetary policy and inflation targeting regime.

For the sake of simplicity, the calculations compare a temporary (within a year term) budget deficit growth by 1 pp of annual GDP with the Bank of Russia's baseline macroeconomic scenario. We assume that the increase in deficit is completely covered from the Reserve Fund (or the National Wealth Fund)¹. It accelerates growth of the monetary base and the money supply in the economy.

The estimates are based on the Research and Forecasting Department's (R&F) BVAR and DSGE models and presented in form of a deviation from the baseline scenario. We applied the BVAR model² to estimate the impact of higher budget deficit on inflation. We then introduced it to the DSGE model³ to assess the required response of the monetary policy⁴.

The calculations show that an intra-quarter additional increase in the budget deficit pushes inflation up by 1.2 percentage points. In its turn, it requires a one-time hike of the Bank of Russia key rate by 1.45 pp (Figure 1, red line). A four-quarter growth of the budget deficit based on the actual performance of non-interest expenditures of the budget system in 2014-2016 results in a smoother inflation growth over the year, which requires a gradual upward revision of the Bank of Russia key rate by the total of 1.1 pp in four quarters (Figure 1, blue line). Thereby, the estimated budget deficit elasticity of the Bank of Russia key rate stands at 1.1.

As budget deficit growth is assumed to be of a temporary nature, the Bank of Russia may cut the key rate in the periods after the deficit growth in the process of disinflation. At the same time, higher inflation expectations, shaped by the inflation acceleration resulting from the deficit growth, will require the key rate to be held at a much higher level as compared to the second scenario for several years.

This approach is constrained by the use of two different models for calculations rather than a single model. The obtained results may still be somewhat biased, because the estimates of the monetary policy response obtained under the DSGE model may deviate from the monetary policy response implicitly assumed in the BVAR model⁵. We believe

¹ In reality, the government may partially cover budget deficit growth with additional public borrowing in the financial market, as mentioned below.

² The BVAR model is a modification of Deryugina E. and Ponomarenko A. (2015). 'Accounting for Post-Crisis Macroeconomic Developments in Russia: A Large Bayesian Vector Autoregression Model Approach', *Emerging Markets Finance and Trade*, vol. 51(6), pp. 1261-1275., supplemented with fiscal variables.

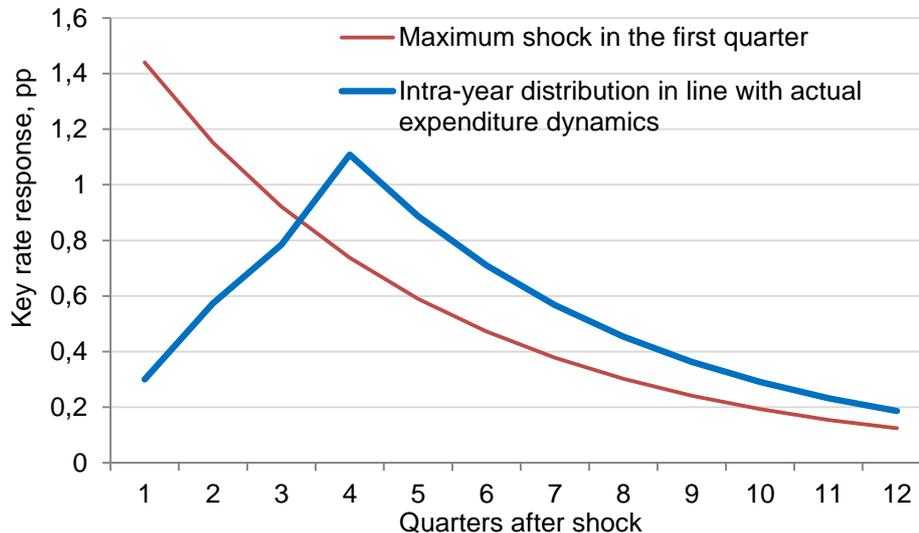
³ We apply the policy rule assessed in the DSGE model that is a modification of Kreptsev D. and Seleznev S. (2016). 'Few-equation DSGE Models for the Russian Economy' // Working Paper Series, supplemented with capital.

⁴ The BVAR model excludes interest rates. It may overestimate inflation acceleration in response to a fiscal policy shock, as a timely change (growth) of interest rates could check price growth.

⁵ See note 1.

that the elasticity of monetary policy response to a fiscal policy shock (deficit growth) may thus be slightly overestimated.

Figure 1. Impulse response of the Bank of Russia key rate to a fiscal policy shock (budget deficit growth by 1 pp of GDP) covered from the Reserve Fund



Source: R&F Department.

Should the use of the Reserve Fund be substituted with higher public borrowing, the impact of budget deficit growth on money supply and inflation will be weaker. Therefore, more aggressive public borrowing in the financial market would ensure a less tight monetary policy in response to a fiscal policy shock⁶.

At the same time, against the backdrop of the progressive budget deficit shrinkage in the Bank of Russia's baseline scenario, the return to the baseline scenario from the scenario with a fiscal policy shock in the second year implies quite an abrupt fiscal policy tightening. It may be hard to implement. As a result, the fiscal policy shock may fall on the second or the third year (as compared to the baseline scenario). In this case, the gap between the key rate required to bring inflation down to the target level, on the one hand, and the key rate implied in the baseline scenario, on the other hand, is likely to widen. This process will last until the effect of the fiscal policy shock dies out (budget deficit falls to the level assumed in the baseline scenario). During this period, inflation will hold above the target level due to the shock.

Thereby, fiscal policy easing would require a relative (as compared to the baseline scenario) or an absolute (key rate hike) monetary policy tightening for a relatively longer period of time to deliver on the inflation target.

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⁶ Please mind that budget deficit growth would have negative consequences irrespective of its coverage – through securities issue or the Reserve Fund. The increase in public borrowing may result in higher yields, lower duration of government bonds, and crowding out private borrowings. In its turn, the Bank of Russia's absorption of surplus liquidity increased the Bank of Russia's liabilities to the banking system and related interest payments.