The Bank of Russia's inflation challenge

The Central Bank of the Russian Federation

Abstract

Since the early 2000s, inflation in Russia has never fallen below 6%, except for brief intervals following the major crisis of 2008 and the changes in 2012 to the seasonal indexation of administered prices.

Persistently high inflation expectations have posed a challenge to the Bank of Russia in setting its 4% inflation targeting course. A further complication was the drop in oil prices and the precipitous weakening of the rouble seen between 2014 and 2015. These factors called for a balanced approach to monetary policy based on the tracking of changes to relative CPI prices and a rigorous assessment of the second-round effects of the exchange rate pass-through (ERPT) on prices.

The central bank has accordingly increased its focus on analytics for underlying inflation and alternative indicators for secondary price shock effects. The following components now constitute the basis for understanding inflation developments in Russia: first, companies' and consumers' perceptions of (or sentiments about) oil price dynamics, the exchange rate and aggregate demand; second, an in-depth study of second-round price effects; third, competent communication on the part of the Bank of Russia on the trajectory towards the 4% target in the medium term; and, finally, concerted policy efforts by both monetary and fiscal authorities.

Keywords: Central banks, inflation

JEL classification: E58 – Central Banks and Their Policies, E31 – Price Level; Inflation; Deflation

I. Inflation targeting as a new policy framework

Throughout the post-Soviet period, inflation has never fallen below 6% in Russia, except for brief intervals following the major crisis of 2008 and the changes in 2012 to the seasonal indexation of administered prices. When implementing inflation targeting, therefore, the central bank faced the challenge of combating persistently high inflation expectations brought about by the high inflation years (Graph 1).

The operating landmark in Russia, as in many other countries with inflation targeting, is the consumer price index (CPI). Importantly, its Russia-specific calculation should take account of, first, the substitution effect (the current year's consumer basket weights are calculated on the basis of average income for eight quarters preceding the prior year's last quarter). The CPI is therefore subject to substitution, quality, product replacement and new product biases, all of which tend to overestimate inflation (Graph 2).

Second, in contrast to the CPIs of advanced economies, the calculation of Russia's CPI is based on the underestimation of service (rent) prices for owner-occupied dwelling, because of computational difficulties. At present, the CPI assigns only a minor weighting to rental payments for standard one- and two-room apartments (0.3% of the CPI basket in 2015), as well as for payments for state-owned apartments (0.4%). Third, the CPI structure does not account for imputed household services (eg self-cleaning). As a result, the CPI is excessively volatile and only poorly reflects financial stability risks.

High inflation expectations are the focus of the Bank of Russia's inflation targeting policy. It is important that the evolution of expectations towards the target is closely monitored as this shows how far the Bank of Russia has been successful in building its credibility. As an indirect effective monetary policy indicator, expectations are a useful instrument in monetary policy setting. On behalf of the Bank of Russia, the Public Opinion Foundation (FOM) conducts monthly surveys of households' inflation expectations. The reports are published on the Bank of Russia website.[1] In addition, the Bank of Russia monitors producer expectations (using the Russian Economic Barometer surveys and PMI surveys) as well as professional analyst forecasts (Bloomberg, Reuters) – see Graphs 3–6.

Households' and producers' expectations do not predict inflation accurately in Russia. They are not yet anchored to the target, as inflation targeting in Russia has a very short history. The population habitually expects inflation to be higher than the actual outcome – see Graph 7. Estimates show that inflation expectations are backward-looking, reflecting subjective biases on the part of the survey respondents (and probably also a perceived lack of competitiveness and low productivity in the economy). Together, these factors account for the stubborn persistence of inflation.

The Bank of Russia also extracts information about inflation expectations from inflation-indexed government bonds (OFZ-IN). This information reflects primarily the inflation expectations of institutional investors (both residents and non-residents), especially those of the Russian banks that account for the largest share of government bond trading volume (53% as of October 2015). Non-residents, non-bank legal

[1] Available in Russian at: www.cbr.ru/DKP/?PrtId=infl.

entities, households and pension fund/asset management companies with government bonds account for 22%, 10%, 9% and 6%, respectively.

The expected inflation is derived from OFZ-IN yields in the following way:

First, a breakeven inflation rate (BEIR), widely used by market participants and central banks as a proxy for inflation expectations, is obtained as the difference between a nominal yield on a fixed-rate bond (OFZ-PD) and a real yield on an inflation-linked bond (OFZ-IN) with the same maturity. Inflation expectations are then calculated by adjusting the BEIR for the inflation risk premium (IRP), which is required by investors in excess of their inflation expectations for bearing the risk of inflation. Thus,

$$(1+\pi^e) = \frac{(1+BEIR)}{(1+IRP)} = \frac{(1+n)}{(1+r)(1+IRP)},$$

where π^e – expected inflation,

n – nominal yield on a fixed-rate bond,

r – real yield on an inflation-linked bond with the same maturity.

In turn, the IRP is obtained from a structural VaR-model where term premium shocks inferred from the yield curve of fixed-rate bonds are decomposed into inertial, inflation and other shocks and IRP is equated to the sum of inertial and inflation shocks. The basic equation describing the dynamics of the term premium is formulated as follows:

$$RP_t = \alpha + \beta_j \sum_{j=1}^{13} CPI_{t-j} + \gamma_k \sum_{k=1}^{13} RP_{t-k},$$

where RP_t – term premium at time t,

CPI_{t-j} – CPI Index at jth lag of t (j months before t),

RP_{t-k} – term premium at kth lag of t (k months before t).

Unfortunately, it is not possible to draw any credible conclusions about the predictive potential of this market-based measure since the history of this market instrument is very short. The solitary issue of inflation-linked bonds has been trading on the secondary bond market only since mid-July 2015.

II. Inflation targeting in Russia: a difficult first year

Due to the very short history of inflation targeting (IT) in Russia, the Bank of Russia lacked experience with disinflation under an IT regime. Further complicating the task of disinflation were the exchange rate shocks arising from both terms-of-trade shocks (TOT) and the Russian counter-sanctions (import bans), which prompted additional supply shocks. In Russia, exchange rate volatility is strongly linked to TOT shocks. In turn, the significant degree of exchange rate volatility (especially during the periods of currency depreciation) prompts a rise in households' inflation expectations as imported goods account for a significant share of the consumer basket.

As high and unanchored inflation expectations in Russia have amplified the negative effect of price shocks on inflation expectations, the Bank of Russia and other authorities have sought to explain the temporary nature of these shocks and to limit

the channels for second-round effects, including the maintenance of higher interest rates and the indexation of administered price and wages.

The lack of monetary policy credibility made the achievement of lower actual inflation the principal tool in anchoring inflation expectations in Russia.

Due to its construction, the Russian CPI is highly sensitive to relative price shocks. As in many other EMEs, food has a high weight in Russia's CPI (37.3% in 2015), making it rather volatile and sensitive to supply shocks. Fresh food constitutes the most volatile group within food inflation, along with regulated tariffs and certain non-food goods with pronounced seasonality. Importantly, low-income population groups are more exposed to negative relative price shocks as they have a higher share of food and utilities services in their consumption basket. This makes relative price shocks politically sensitive.

The exchange rate plays a substantial role in inflation dynamics in Russia due to the large share of imported consumer goods in retail trade (36% of resources of retail trade in Q2 2015) and in the CPI. To some extent, inflation is also dependent on state price and tariff policies, as about 10% of prices and tariffs in the CPI are regulated. Demand constraints stemming from a deep decline in wages and incomes have also become more important recently for Russia's inflation dynamics.

Fresh food prices (as well as regulated and some other prices and tariffs) are not included in the core inflation measure, which captures 72.9% of the CPI consumer basket in 2015. This makes core inflation less volatile. Still, certain food items cause marked temporary fluctuations to core inflation when supply shocks occur. Thus, the Bank of Russia uses core inflation net of food for analytical purposes. Numerous exclusion-based indices and trimmed measures of inflation are also used by the Bank of Russia, adding value to its inflation analysis.

The significant exchange rate depreciation in late 2014 sharply increased the pass-through effect to consumer prices, and was the major factor behind the inflationary upswing in 2015. This upswing prompted significant changes in relative prices, lifting inflation expectations. Food prices, especially for fresh food, react most quickly to exchange rate moves, while the response of non-food prices takes longer. The prices of some services are also sensitive to exchange rate movements (eg overseas tourist services).

Before 2015, we estimated the pass-through effect at 0.10–0.15. The increased exchange rate volatility magnified the second-round effects of currency depreciation, which took the form of spikes in feverish demand, episodic decreases in the domestic supply of certain goods due to increased export profitability and a rise in inflation expectations. The pass-through effect temporary rose to 0.40 in that period. According to our estimates, some 7 percentage points out of the 15.7–15.8% year-on-year inflation in September 2015 were related to the rouble depreciation. The power of the pass-through effect diminished later in 2015 when the exchange rate path ceased to be unidirectional, and started to move together with oil prices. At present, we estimate the pass-through effect at about 0.20.

Another source of changes in relative prices is tariff regulation in public utilities and public transportation. Core inflation is less sensitive to relative price changes than headline inflation, due mainly to the exclusion of fresh food and regulated prices in the core inflation measure. However, strong exchange rate movements made practically all inflation measures sensitive to relative price changes. The Bank of Russia

has recently started estimating underlying inflation, which has become a useful tool in capturing the inflation trend regardless of relative price changes.

Along with weak demand, moderately tight monetary policy and the favourable base effect are on course to bring inflation down to 7% by the end of 2016. The Bank of Russia will continue to monitor inflation risks as it pursues a monetary policy focused on the 4% inflation target to be delivered by late 2017.

III. Understanding the dynamics of future inflation and prospects for IT

Some serious challenges stood in the way of inflation targeting at the start of its implementation. However, the Bank of Russia's response in December 2014, when the key policy rate was raised to 17%, underlines its commitment to achieving the inflation target while safeguarding both financial stability and GDP growth. But the ongoing slump in oil prices and the rouble's depreciation in early 2016 have posed new challenges for the Bank of Russia that may hinder progress towards the set goals.

The forecasting of future inflation dynamics in Russia takes account of the following elements:

First, business and consumer perception and sentiment regarding the oil price, exchange rate and aggregate demand are monitored. Producer expectations for an oil price recovery imply that the rouble is expected to appreciate and demand to grow. The former limits the exchange rate pass-through (ERPT) to prices, while the latter tends to reinforce it. The cumulative effect will manifest itself in the coming months. Generally speaking, the higher the exchange rate volatility is, the weaker is the ERPT (see Devereux and Engel (2002), Krugman (1989)). At the same time, if businesses and consumers realise that the exchange rate will not return to the previous level because of a shift in the equilibrium exchange rate, the ERPT will be boosted in the same way as it was after the rouble slump in December 2014. Such risks still persist.

Second, the secondary effects of exchange rate movements on inflation need to be understood. Our estimates of such effects suggest that they are modest: a 10% depreciation of the rouble in nominal effective exchange rate terms prompts an ERPT of about 1.5 pp within the first year; in subsequent years, the secondary effects account for only 0.3 pp (Graph 8).

Third is the role of stubbornly high and persistent inflation and inflation expectations in Russia. Domestic inflation is persistently high at about 7%. Furthermore, it increased by about 2 pp in 2015 (Graph 9). In order to secure steady disinflation, a tighter monetary policy may be required in such circumstances.

Fourth, the Bank of Russia's communications are an important tool for achieving the 4% target in the medium term. The central bank has to convince all market participants and households that the inflation target is achievable and unchangeable. A decline in the actual inflation in line with the Bank of Russia's forecast will boost confidence in the disinflation policy and bring down inflation expectations.

Fifth, the Bank of Russia and the government need to pursue a concerted policy to curb price growth. It is essential that wage indexation in the public and private

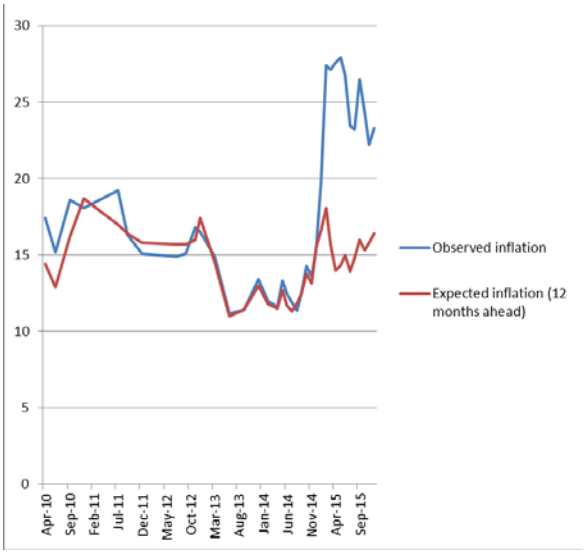
sectors does not overtake actual price growth. The federal expenditure cuts now under discussion for 2016 should trigger disinflation.

Despite these new challenges, the Bank of Russia remains committed to reaching its inflation target and is convinced that this target is achievable.

Appendix

Direct inflation estimates: median values

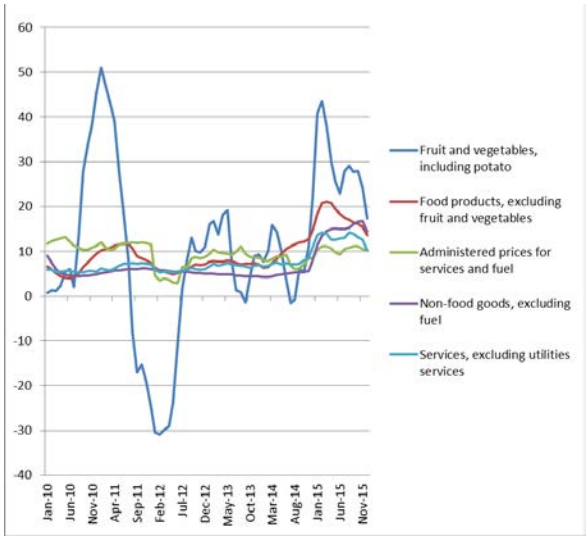
Graph 1



Sources: Public Opinion Foundation, in FOM.

Individual CPI sub-indices

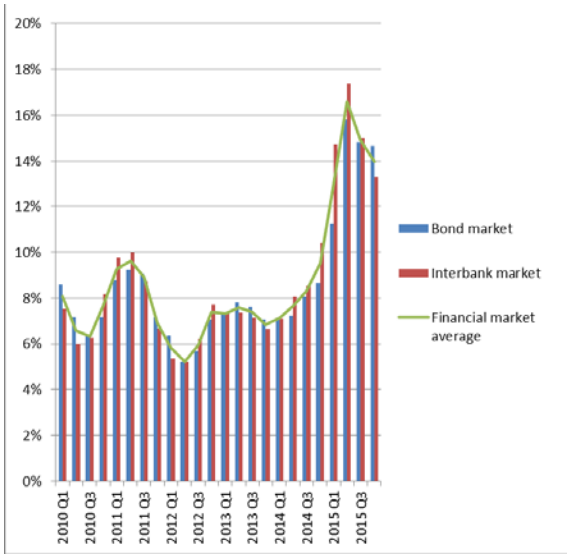
Graph 2



Sources: Rosstat, Bank of Russia calculations.

Inflation expectations (estimates based on financial market data)

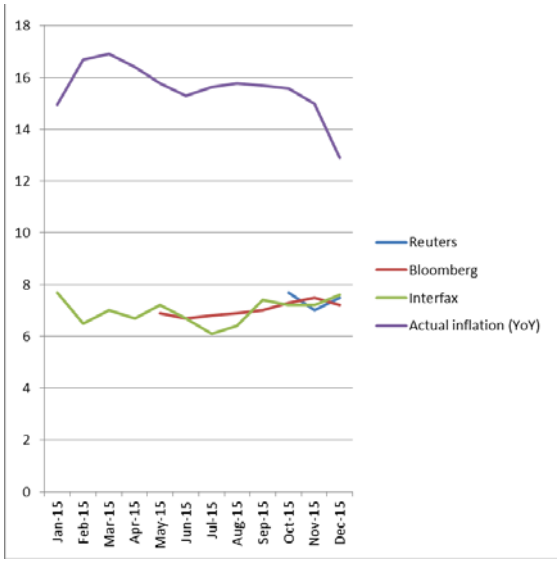
Graph 3



Sources: Bank of Russia calculations.

Professional analysts' consensus forecasts of consumer price inflation in 2006

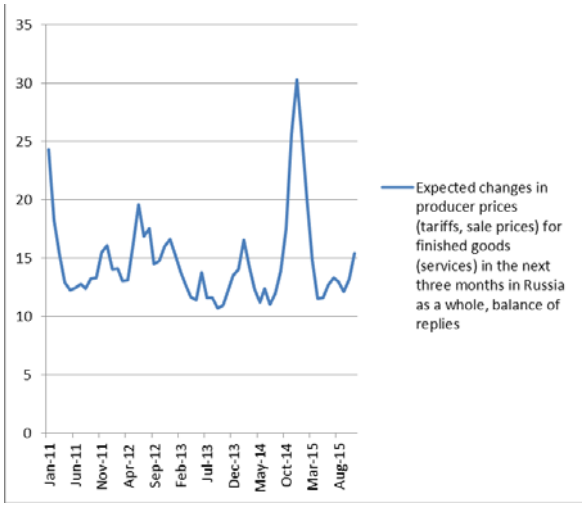
Graph 4



Sources: Reuters, Bloomberg, Interfax, Rosstat.

Expected changes in producer prices (tariffs, sale prices) for finished goods (services) in the next three months in Russia as a whole, balance of replies

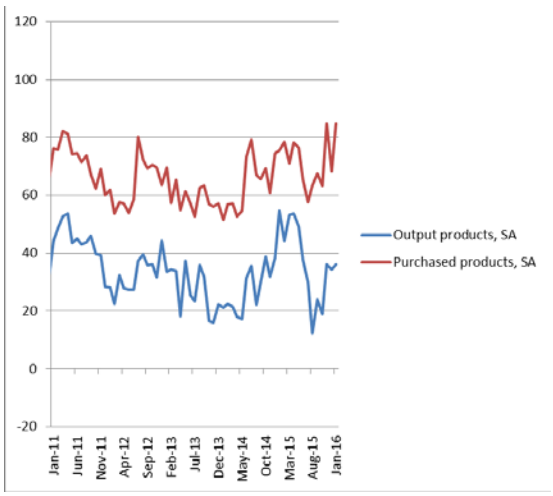
Graph 5



Source: Bank of Russia Banking Supervision Department.

Expected changes in prices for output and purchased products in industrial production, balance of replies (enterprises showing higher rates over the three months)

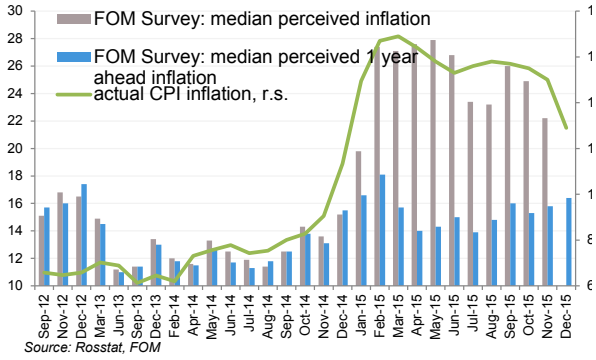
Graph 6



Sources: Russian Economic Barometer, Bank of Russia calculations.

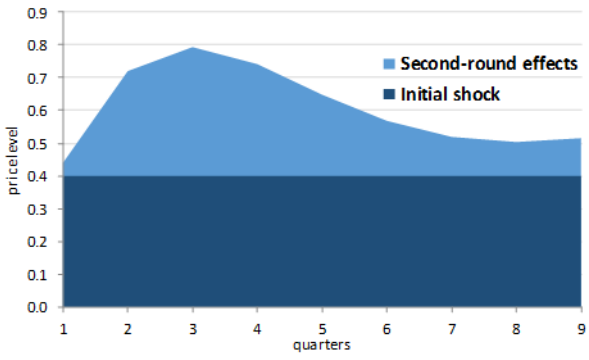
Inflation expectations

Graph 7



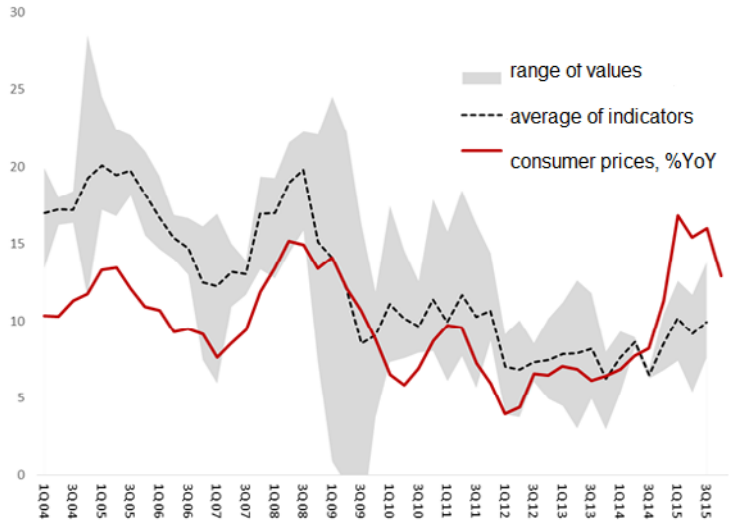
Second-round effects of 10% oil price decline

Graph 8



Range of domestic inflation* indicators, % per year

Graph 9



Sources: Rosstat, Bank of Russia calculations.

* – ULC, GDP deflator excluding government consumption, prices of services.

References

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