University of Kirkuk Journal For Administrative and Economic Science. A special issue of the 1st Scientific Conference of the College of Administration and Economics - University of Kirkuk - Information technology, digitization, and their impact on sustainable development - 8-9, Oct- 2025.

IRAQI Academic Scientific Journals

UKJAES

University of Kirkuk Journal For Administrative and Economic Science

ISSN:2222-2995 E-ISSN:3079-3521
University of Kirkuk Journal For Administrative and Economic Science

Frumina Svetlana Viktorovna, Al Saady Wesam & Abdulrahman Tania Qader. Testing the Behavioral Impact of the Prime Interest Rate Announcements on Dollar to Ruble Exchange Rate in Russia. ***University of Kirkuk Journal for Administrative and Economic Science*** **Volume (15) Issue (4) Part (2) Supplement (1) A special issue of the 1st Scientific Conference of the College of Administration and Economics - University of Kirkuk - Information technology, digitization, and their impact on sustainable development - 8-9, Oct- 2025, p-p:150-159.**

Testing the Behavioral Impact of the Prime Interest Rate Announcements on Dollar to Ruble Exchange Rate in Russia

Svetlana Viktorovna Frumina [1], Wesam Al Saady [2], Tania Qader Abdulrahman [3]

[1] D.Sc. in Economics, Head of Global Financial Markets and Fintech Department in Plekhanov Russian University of Economics, Moscow, Russian Federation, Assistant Professor at Financial University under the Government of the Russian Federation, Moscow, Russian Federation

[2] Senior teacher of Global Financial Markets and Fintech Department in Plekhanov Russian University of Economics, Moscow, Russian Federation

.[3] PhD in Financial Accounting, Professor, Vice Dean of Management and Economics Faculty. Faculty of Management and Economics, University of Kirkuk, Kirkuk, Iraq

frumina@mail.ru [1]
wesam.alsaady90@gmail.com [2]
taniaqader@uokirkuk.edu.iq [3]

Abstract. This study tested the potential behavioral impact on USD/RUB exchange rate after Bank of Russia announcements about the prime interest rate for the period from 3ed January 2020 to 30th Jun 2025 by using daily returns of USD/RUB and the prime interest rate announcement data. non-parametric test approach, namely, runs test, as well as, parametric test approach, namely, event study, and T- student test were applied to test the influence the prime interest announcements on USD/RUB.

The test results provide sufficient evidence on investors over-reaction before the announcement that lead ruble exchange rate to rise against dollar beyond levels justified by macroeconomic fundamental factors. Also, provide evidence on investors under-reaction after the announcement date on returns of USD/RUB in Russian market.

The current study suggests investors to buy dollars before the prime interest rate announcements at a low exchange rate, then resell dollars after the announcement at a higher exchange rate to achieve abnormal returns.

Keywords: fiscal policy, abnormal returns, prime interest rate, interest rate announcements, behavioral finance, price over-reaction, price under-reaction, price anomaly, price pattern, exchange market.

إختبار التأثير السلوكي لإعلانات سعر الفائدة الرئيسي على سعر صرف الدولار مقابل الروبل في روسيا

أ.م. فروميا سفيتلانا فيكتوروفنا [١] ، م. وسام السعدي [٢]، أ.م.د. تانيا قادر عبدالرحمن [٣]

[١] رئيس قسم الأسواق المالية العالمية والتكنولوجيا المالية في جامعة بليخانوف الروسية للاقتصاد، موسكو، روسيا الإتحادية
أستاذ مساعد في الجامعة المالية التابعة لحكومة روسيا الإتحادية، موسكو، روسيا الإتحادية.
[٢] قسم الأسواق المالية الدولية والتكنولوجيا المالية في جامعة بليخانوف الروسية للاقتصاد، موسكو، روسيا الإتحادية.
[٣] نائب عميد كلية الإدارة والاقتصاد، كلية الإدارة والاقتصاد، جامعة كركوك، كركوك، العراق.

المستخلص: اختبرت هذه الدراسة احتمال وجود أثر السلوكي على سعر صرف زوج الدولار الأمريكي/الروبل الروسي بعد إعلانات بنك روسيا عن سعر الفائدة الرئيسي للفترة من ٣ يناير ٢٠٢٠ إلى ٣٠ يونيو ٢٠٢٥، وذلك باستخدام العوائد اليومية لسعر صرف زوج الدولار الأمريكي/الروبل الروسي وبيانات إعلان سعر الفائدة الرئيسي. وقد طُبقت الدراسة أساليب الاختبار غير المعلمية، وهي اختبار الإشارة، بالإضافة إلى أساليب الاختبار المعلمية، وهي دراسة الأحداث، واختبار (T- student)، لاختبار تأثير إعلانات سعر الفائدة الرئيسي على سعر صرف زوج الدولار الأمريكي/الروبل الروسي. وتُقدم نتائج الاختبار أدلة كافية على مبالغة المستثمرين في رد الفعل قبل الإعلان، مما أدى إلى ارتفاع سعر صرف الروبل مقابل الدولار إلى مستويات تتجاوز المستويات التي تبررها عوامل الاقتصاد الكلي الأساسية. كما تُقدم أدلة على رد فعل المستثمرين غير الملائم بعد تاريخ الإعلان على عوائد سعر صرف زوج الدولار الأمريكي/الروبل الروسي في السوق الروسية. وتقترح الدراسة الحالية أن يشتري المستثمرون الدولار قبل إعلانات سعر الفائدة الرئيسي بسعر صرف منخفض، ثم أن يعيدوا بيعه بعد الإعلان بسعر صرف أعلى لتحقيق عوائد غير عادية.

الكلمات المفتاحية: السياسة المالية، العوائد غير العادية، سعر الفائدة الأساسي، إعلانات أسعار الفائدة، التمويل السلوكي، مبالغة رد الفعل على الأسعار، رد الفعل غير الملائم على الأسعار، شذوذ الأسعار، نمط الأسعار، سوق الصرف.

Corresponding Author: E-mail: frumina@mail.ru

Introduction

The exchange rate of the Russian ruble against the U.S. dollar represents more than a simple measure of currency valueit is a barometer of economic sentiment, political stability, and the credibility of monetary policy. In recent years, particularly in the wake of geopolitical disruptions, sanctions, and domestic inflationary pressures, the ruble's exchange rate has become increasingly sensitive to shifts in monetary policy, especially to changes in the key interest rate set by the Bank of Russia. This policy rate serves as a central tool in the bank's broader monetary policy framework, intended to anchor inflation expectations, stabilize the financial system, and support long-term economic growth.

Since 2014, Russia has officially adopted a managed floating exchange rate regime, which allows the ruble's value to be largely determined by market forces while preserving the flexibility for the central bank to intervene during episodes of excessive volatility or external shocks (International Monetary Fund, 2015). Under this system, interest rate changes often act as signalsintended to influence not only macroeconomic fundamentals like inflation and capital inflows but also the expectations and behavior of market participants. For instance, an increase in the key rate is commonly interpreted as a commitment to curb inflation or stabilize the ruble, which may attract speculative capital or trigger portfolio rebalancing by investors (Mishkin, 2007; Dornbusch et al., 1995).

However, the transmission of monetary policy to the exchange rate is not purely mechanical. A growing body of literature suggests that behavioral factorsincluding investor sentiment, herding behavior, and risk perceptioncan significantly amplify or dampen the effects of interest rate adjustments (Shiller, 2015; Akerlof and Shiller, 2009). In the case of Russia, where macroeconomic policy is often shaped by exogenous geopolitical eventssuch as Western sanctions, oil price volatility, and conflict-related uncertaintythe behavioral response to interest rate changes can diverge markedly from textbook expectations. For example, despite aggressive rate hikes in 2022

and 2023, the ruble depreciated in certain periods, driven more by capital flight fears and reduced investor confidence than by interest rate differentials alone (Reuters, 2023; World Bank, 2023).

This study seeks to investigate the behavioral impact of key interest rate changes on the USD/RUB exchange rate, with a specific focus on the 2020–2025 period a time marked by intense economic and political turbulence. The objective is to examine not only the quantitative relationship between interest rate adjustments and exchange rate movements, but also to uncover the behavioral mechanisms that mediate this relationship.

Understanding this interaction is critical for policymakers, investors, and institutions seeking to anticipate ruble movements, design effective interventions, and interpret the signals embedded in Russia's monetary policy decisions. Moreover, this research contributes to the broader economic literature on behavioral macroeconomics and exchange rate dynamics in emerging markets under hybrid monetary regimes.

1st: Problem Statement

The foreign exchange market is highly sensitive to macroeconomic signals, with interest rate announcements playing a particularly influential role in shaping investor expectations and capital flows. In Russia, decisions by the Bank of Russia —especially changes to the prime interest rate— can significantly affect the USD/RUB exchange rate due to their impact on inflation expectations, investment attractiveness, and perceived economic stability. However, traditional economic models often assume that market participants respond rationally and symmetrically to such news.

In practice, behavioral finance suggests that investor reactions may be biased, exhibiting overreactions, underreactions, or asymmetric responses depending on the nature of the announcement (e.g., rate hikes vs. cuts) and prevailing market sentiment. Despite the relevance of this behavioral dimension, limited empirical research exists that isolates and tests these effects specifically within the context of the Russian exchange market.

This study aims to examine whether the USD/RUB exchange rate exhibits abnormal returns around prime interest rate announcements by Bank of Russia and to assess the presence of behavioral biases in investor responses. Understanding these dynamics is critical for policymakers, investors, and researchers seeking to anticipate market volatility and improve exchange rate forecasting models.

2nd: Research Question

To what extent do prime interest rate announcements by Bank of Russia trigger abnormal returns in the USD/RUB exchange rate, and is there evidence of behavioral biases such as overreaction or underreaction in the market's response?

3rd: Research Objectives

Analyze the impact of prime interest rate announcements by Bank of Russia on the USD/RUB exchange rate.

Identify and measure the presence of abnormal returns around the announcement dates using an event study methodology.

Examine whether investor responses to rate hikes and rate cuts are asymmetric in the USD/RUB exchange market.

Evaluate the existence of behavioral patterns such as overreaction or underreaction in the exchange rate movements following interest rate announcements.

Contribute empirical evidence to the field of behavioral finance within the context of Russia's foreign exchange market.

4th: Significance of Research

This research holds substantial significance for both academic and practical domains. From an academic standpoint, it contributes to the growing field of behavioral finance by testing the hypothesis that investor behavior in the Russian foreign exchange market is influenced not only by rational economic fundamentals but also by psychological and emotional factors. While much of the behavioral finance literature has focused on equity markets in developed economies, this study extends the scope to an emerging market context—specifically, the USD/RUB exchange rate—thereby filling a notable gap in the literature.

From a practical perspective, understanding how the Russian ruble responds to interest rate decisions can enhance the decision-making process for both policymakers, and investors. If evidence of overreaction or underreaction is found, it may suggest inefficiencies in the market that can be anticipated or exploited. For Bank of Russia, the findings may offer insights into how market participants interpret and respond to its monetary policy signals, potentially informing more effective communication strategies.

Furthermore, in a geopolitical environment where Russia's financial markets face unique external pressures such as sanctions and capital controls, this research provides a timely and localized examination of market psychology under uncertainty. As a result, the study not only enriches the understanding of exchange rate behavior in Russia but also has broader implications for behavioral finance research in emerging economies.

5th: Literature Review

The relationship between interest rate changes and exchange rate movements has been a core focus in both traditional and modern macroeconomic theory. Classical models, such as the Interest Rate Parity (IRP) theory, posit that capital mobility leads to adjustments in exchange rates in response to interest rate differentials between countries (Frenkel and Rodriguez, 1982). In this framework, an increase in the domestic interest rate should, ceteris paribus, attract foreign capital, increase demand for the domestic currency, and thus lead to an appreciation. However, empirical findings often show mixed results, particularly in emerging market contexts where structural rigidities, political risks, and central bank credibility distort these mechanisms (Obstfeld and Rogoff, 1996).

In Russia’s case, the Central Bank of Russia operates under a managed floating exchange rate regime, providing it with flexibility to intervene in currency markets when necessary (IMF, 2019). Since formally abandoning its exchange rate band in 2014, the CBR has increasingly relied on inflation targeting and key rate adjustments to achieve macroeconomic stability. Studies such as Gurvich and Prilepskiy (2015) have found that, while monetary tightening helped stabilize inflation in post-sanctions Russia, its effect on the exchange rate has been significantly mediated by geopolitical events and shifts in market expectations.

Recent research acknowledges the growing importance of behavioral economics in exchange rate dynamics. According to Shiller (2003), financial markets do not always behave rationally; psychological factors like fear, confidence, and herd behavior often dominate responses to policy signals. Akerlof and Shiller (2009) further argue that emotion-driven economic behaviorcan distort or magnify the expected impact of macroeconomic policy tools, including interest rate adjustments. In the context of Russia, this suggests that even rational rate hikes may not yield ruble appreciation if investors perceive increased political risk or capital controls.

A key strand of literature also explores the credibility and transparency of central banks in shaping behavioral responses. Rogoff (1985) notes that in economies with a history of inflation or political interference in monetary policy, even credible interest rate signals may fail to generate stabilizing expectations. For Russia, empirical findings from researchers such as Kireeva (2021) suggest that while the CBR has gained institutional independence and improved policy communication in recent years, residual scepticism especially during periods of geopolitical tension limits the effectiveness of its rate-based signaling mechanism.

Additionally, capital controls and foreign exchange interventions often employed in Russia affect how interest rate changes are interpreted by markets. Rey (2015) argues that in managed floats, central banks not only influence interest rate expectations but also send implicit signals through FX reserve actions and capital account restrictions. This multi-instrumentalism complicates the task of isolating the behavioral effect of the key rate from other concurrent interventions.

While several studies have quantitatively examined Russia's monetary transmission mechanism (Oomesand Kalcheva, 2007; Dabrowski, 2019), few have integrated behavioral dimensions into their analysis. As such, there is a growing research gap in understanding how expectations, sentiment, and credibility mediate the relationship between key interest rate changes and exchange rate fluctuations in Russia's specific institutional and geopolitical context.

6th: Materials and Methods

The study includes 1579 daily observation of USD/RUB exchange rate, while the sample for event study includes 528 daily observations around the prime interest rate announcements. The data uses in this study consist of daily exchange rate of USD/RUB from the Seeking Alpha database, and the prime interest rate data form Calendar of key rate decisions at Bank of Russia. The current study covers the period from 03/01/2020 to 30/06/2025.

Tabel 1 shows the event number, the prime interest rate announcement date during the study period from 03/01/2020 to 30/06/2025, the type of announcement (e.g. Bank of Russia announce: increases, decreases, or maintains the prime interest rate), and the prime interest rate in term.

Tabel (1): The prime interest rate announcements from 03/01/2020 to 30/06/2025

Event №	Announcement Date	Announcement Type	Prime Interest Rate
1	07-Feb-20	Increase	6.00%
2	20-Mar-20	Maintain	6.00%
3	24-Apr-20	Decrease	5.50%
4	19-Jun-20	Decrease	4.50%
5	24-Jul-20	Decrease	4.25%
6	18-Sep-20	Maintain	4.25%
7	23-Oct-20	Maintain	4.25%
8	18-Dec-20	Maintain	4.25%
9	12-Feb-21	Maintain	4.25%
10	19-Mar-21	Increase	4.50%
11	23-Apr-21	Increase	5.00%
12	11-Jun-21	Increase	5.50%
13	23-Jul-21	Increase	6.50%
14	10-Sep-21	Increase	6.75%
15	22-Oct-21	Increase	7.50%
16	17-Dec-21	Increase	8.50%
17	11-Feb-22	Increase	9.50%
18	28-Feb-22	Increase	20.00%
19	18-Mar-22	Maintain	20.00%
20	08-Apr-22	Decrease	17.00%
21	29-Apr-22	Decrease	14.00%
22	26-May-22	Decrease	11.00%
23	10-Jun-22	Decrease	9.50%
24	22-Jul-22	Decrease	8.00%
25	16-Sep-22	Decrease	7.50%
26	28-Oct-22	Maintain	7.50%
27	16-Dec-22	Maintain	7.50%
28	10-Feb-23	Maintain	7.50%
29	17-Mar-23	Maintain	7.50%
30	28-Apr-23	Maintain	7.50%
31	09-Jun-23	Maintain	7.50%
32	21-Jul-23	Increase	8.50%
33	15-Aug-23	Increase	12.00%

34	15-Sep-23	Increase	13.00%
35	27-Oct-23	Increase	15.00%
36	15-Dec-23	Increase	16.00%
37	16-Feb-24	Maintain	16.00%
38	22-Mar-24	Maintain	16.00%
39	26-Apr-24	Maintain	16.00%
40	07-Jun-24	Maintain	16.00%
41	26-Jul-24	Increase	18.00%
42	13-Sep-24	Increase	19.00%
43	25-Oct-24	Increase	21.00%
44	20-Dec-24	Maintain	21.00%
45	14-Feb-25	Maintain	21.00%
46	21-Mar-25	Maintain	21.00%
47	25-Apr-25	Maintain	21.00%
48	06-Jun-25	Decrease	20.00%

Source: Prepared by authors.

Results of table 1 shows that Bank of Russia announce 48 times about the prime interest rate during the study period, 41.7% from the announcements were maintain the prime interest rate, 37.5% were increase the prime interest rate, and 20.8% were decrease the prime interest rate, on the other hand, the prime interest rate rises from 6% at 07/02/2020 to 20% at 06/06/2025.So The Bank of Russia did not change the monetary policy during the study period, as The Bank of Russia allows the ruble to fluctuate based on market forces, but intervenes when necessary to stabilize volatility by using Managed Float (Dirty Float).

The natural log of closing exchange rate was used for the of USD/RUB closing exchange rate frequencies to produce a time series of continuously compounded returns, as that:

$$LogR_t = Log\ (\frac{P_t}{P_{t-1}})(1)$$

where $Log\ R_t$ – the natural log of USD/RUB closing exchange rate; P_t, and P_{t-1} represent the USD/RUB closing exchange rate at time t and t-1, respectively.

Runs Test:

This test analyzes uninterrupted sequences of USD/RUB return changes; the return stability is indicated by the symbol (0). Any change that increases the return is indicated by the symbol (+), and a change that reduces the return is indicated by the symbol (-); inversion of the symbol in a succession of returns implies the beginning of a new pattern (Run). So, to test for the return independence assumption in anexchange rate series, the number of sign patterns that occur randomly in the series is counted, whereupon the Runs test is usually used to find the existence of statistical correlation relationships that are not detected by the autocorrelation test (Abbas, 2014; Moustafa, 2004).

The current study codes the values above the mean return as positive and values below the median as negative. A Run is defined as a series of consecutive positive (or negative) values.

The null hypothesis is defined as:

- The sequence was produced in a random manner.

Against the alternative hypothesis:

- The sequence was not produced in a random manner.

According to (Imbens and Wooldridge, 2009) the test statistic Z required for the actual number of runs in the runs test is calculated according to the following formula:

$$Z = R - E(R).\sigma_R \qquad (2)$$

where R is the observed number of runs; $E(R)$ is the expected number of Runs; and σ_R is the standard deviation of the number of runs.

The values of $E(R)$ and σ_R are computed as follows:

$$E(R) = \frac{2(n_a.n_b)}{n_a+n_b} + 1 \quad (3)$$

$$\sigma_R = \sqrt{\left\{\frac{2n_a n_b(2n_a n_b - n_a - n_b)}{(n_a+n_b)^2(n_a+n_b-1)}\right\}} \quad (4)$$

where n_a and n_b are the number of positive and negative Runs in the series.
The Runs test rejects the null hypothesis if:

$$|Z| > Z_{1-\alpha/2} \quad (5)$$

where threshold $Z_{1-\alpha/2}$ value is found in the standardized normal distribution table for significance level α=5%.
Abnormal Return (AR):
Represent the difference between the actual USD/RUB return and its expected return, which measured as an average return of USD/RUB returns during the study period.
$AR_t = R_t - E(R)_t$ (6)
where R_{it}- actual USD/RUB return on day *t;* $E(R)_t$ - expected return of USD/RUB returns during the study period
Average Abnormal Return (AAR):
This study implements an event window around the event from -5 to +5 days[1].

$$AAR_i(t_1, t_n) = \frac{1}{n}\sum_{t_1}^{t_n} AR_{it} \quad (7)$$

where: n- events numbers, i – represent the event window, AR – the abnormal USD/RUB return for each day during the study period t.
T-student test:
The T-student used to test whether the average abnormal returns (AAR) of abnormal USD/RUB return associated with the prime interest rate announcements are significantly different from zero at 5% significance level during the study period.

$$T = \frac{AAR}{\sigma(AAR)} \quad (8)$$

where: AAR - is the average AR across the prime interest rate announcements; $\sigma(AAR)$- is the standard error of AAR.

7th: Results

Table 2 summarizes the results of the runs test performed. The number of actual runs of USD/RUB return 803, that is, more than the expected number of runs 780 to accept the random walk hypothesis at the 5% significance level, therefore the runs test results reject the random-walk hypothesis for of USD/RUB returns.
The positive value of (Z) for USD/RUB was 0.874, which is lower than the 1.96 pointing to the existence of a positive correlation between USD/RUB return daily changes during the time. Thus, when positive change in dollar exchange rate happens today the changes in the following days expected to be in the same trend, and vice versa.
The number of actual runs for USD/RUB return 5 days before the prime interest rate

[1]An event window is a time period around a specific event date used to assess the impact of that event on a stock's returns.

announcements is 118 equal to expected number of runs 5 days before the announcement. Also, value of (Z) equal to zero. Thus, current study accepts the random-walk hypothesis for USD/RUB return in 5 days before the announcements.

While, the number of actual runs of USD/RUB return 5 days after the announcement is 124, which is, more than the expected number of runs 116 to accept the random walk hypothesis at the 5% significance level, therefore the runs test results reject the random-walk hypothesis for 5 days after the announcement USD/RUB returns, furthermore, The positive value of (Z) for USD/RUB was 0.942, which is lower than the 1.96 pointing to the existence of a positive correlation between USD/RUB return daily changes during the time. Thus, all the USD/RUB exchange rate changes after the announcements of the prime interest rate expected to be in the same trend.

From the above there is a possibility to achieve abnormal returns from USD/RUB exchange rate volatility in period (±5) days around the Bank of Russia prime interest rate announcements.

Table (2): Results of Runs test for USD/RUB returns

Data	Test value (Mean)	Cases< test value	Cases> test value	Total cases	Actual №. of Runs	Expected №. of runs	Z	Asymp. Sig (2Tailed)
USD/RUB returns	0.000146	847	731	1578	803	785	0.874	0.382
Before the announcement USD/RUB returns	0.000000	101	139	240	118	118	0.001	0.999
After the announcement USD/RUB returns	0.001147	142	98	240	124	116	0.942	0.346

Source: Prepared by authors.

Table 3 shows the results of the event study on returns of USD/RUB after the Bank of Russia prime interest rate announcements. As observed from table 3 the average returns of USD/RUB are significantly negative before the announcement in 5 days receptively (-10%, -9%, -7%, -5%, -4%), on the other hand, the average returns are significantly positive after the announcement in 5 days receptively (3%, 5%, 7%, 10%). Thus, investors in exchange market can achieve abnormal returns by buying dollars before the prime interest rate announcements and resale it after the announcement, on the other hand, the regulatory can use the prime rate to affect USD/RUB market exchange rate, as the exchange rate response efficiently to the prime rate announcement.

Furthermore, all T- Student test values are negatively significant at 5% level before 5 days from the prime rate announcement, on the other hand, all T- Student test values are positively significant at 5% level after 5 days from the prime rate announcement, so the prime rate announcement lead to significant over-reaction before the announcement date and under-reaction after the announcement date on returns of USD/RUB in Russian market.

Table (3): Results of the event study on returns of USD/RUB after the Bank of Russia prime interest rate announcements

Event Day	AAR	AAR percentage	Standard Deviation	T- student test	P-value
-5	(0.10353)	(10%)	0.021364	(33.575)	0.00000*
-4	(0.08940)	(9%)	0.023671	(26.165)	0.00000*
-3	(0.07299)	(7%)	0.031671	(15.966)	0.00000*
-2	(0.05243)	(5%)	0.039616	(9.1690)	0.00000*
-1	(0.03629)	(4%)	0.042127	(5.9680)	0.00000*
0	(0.00742)	(1%)	0.04529	(1.1340)	0.00000*
1	0.014310	1%	0.048543	2.042	0.00000*
2	0.032291	3%	0.050298	4.448	0.00000*
3	0.051279	5%	0.055032	6.456	0.00000*
4	0.074838	7%	0.05913	8.769	0.00000*
5	0.099526	10%	0.06345	10.867	0.00000*

Notes:
1) Value in parenthesis indicates negative values.
2) P-value, which asterisked point to 5% significant level.

Source: Prepared by authors.

Discussion

An over-reaction occurs when the exchange market investors respond too strongly to news about the prime interest rate announcement, pushing Russian ruble exchange rates beyond levels justified by macroeconomic fundamental factors. Investors become overly optimistic causing excessive selling of dollars before the announcement, but, as shown in table 1 most of announcements were maintain the prime interest rate, so investors in exchange market start to understand after the announcement that the increase was already partially priced in or in deferent words doesn't signal a long-term trend. Thus, the initial spike reverse in the following days. This correction reflects that the market overreacted to the announcement.

Also, results in table 3 show that investors in exchange market don't change them financial position directly after the announcement and the ruble exchange rate fell down in next 5 days after the announcement. This suggests that investors in exchange market may not fully recognize the significance of the news or are waiting for confirmation, so the ruble exchange rate don't fell down, as soon as, the announcement occurred. But, over the next few days, as analysts and investors reassess the outlook, the ruble value begins to decline against dollar. This is a sign of under-reaction the market was initially too slow to adjust.

Conclusion

This study tested the possibility of over-reaction or under-reaction on USD/RUB exchange rate after Bank of Russia announcements about the prime interest rate.

After comparing the average abnormal returns AAR of USD/RUB with the average returns of USD/RUB before and after Bank of Russia announcement about the prime interest rate, this study found that the changes in prime rate a significant behavioral effect on USD/RUB returns that can be used by exchange market investors to achieve abnormal returns.

The results of current study explain this behavioral influence of the prime interest rate announcement as an over-reaction before the announcement that lead ruble exchange rate to rise against dollar beyond levels justified by fundamentals, then the investors under-react after the announcement, when the ruble exchange rate start to decline against the dollar as the investors reassess the outlook slowly during the next 5 days.

The current study suggests investors to buy dollars before the prime interest rate announcements at a low exchange rate, then resell dollars after the announcement at a higher exchange rate to achieve abnormal returns.

This study also, recommends that regulators combine the announcement of the prime interest rate with long-term fiscal policy to influence exchange market investor sentiment over the long-term and maintain the appreciation of the Russian ruble prior to the announcement of the prime interest rate.

References

1- Akerlof, G. A., & Shiller, R. J. (2009). Animal Spirits: How Human Psychology Drives the Economy. Princeton University Press.
2- Bank of Russia Web Site. - Calendar of key rate decisions – (2025). [Electronic resource]. URL https://www.cbr.ru/eng/dkp/cal_mp/#t2(Accessed on, 01.08.2025).
3- Dabrowski, M. (2019). Monetary Policy in Russia: From Monetary Targeting to Inflation Targeting. CASE Research.
4- Dornbusch, R., Fischer, S., & Startz, R. (1995). Macroeconomics. McGraw-Hill.
5- Frenkel, J. A., & Rodriguez, C. A. (1982). Exchange Rate Dynamics and Monetary Policy.
6- Gurvich, E., &Prilepskiy, I. (2015). The Impact of Financial Sanctions on the Russian Economy. Russian Journal of Economics.
7- IMF. (2019). Russian Federation: Article IV Consultation.
8- International Monetary Fund (IMF). (2015). Russian Federation: Article IV Consultation Report
9- Kireeva, A. (2021). Central Bank Credibility and Exchange Rate Expectations in Russia.
10- Mishkin, F. S. (2007). Monetary Policy Strategy. MIT Press.
11- Obstfeld, M., & Rogoff, K. (1996). Foundations of International Macroeconomics.
12- Oomes, N., &Kalcheva, K. (2007). Diagnosing Dutch Disease: Does Russia Have It? IMF Working Paper.
13- Reuters. (2023). Russia hikes rates to defend ruble amid inflation pressures.
14- Rey, H. (2015). Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence.
15- Rogoff, K. (1985). The Optimal Degree of Commitment to an Intermediate Monetary Target.
16- Seeking Alpha database. - USD:RUB data - (2025). [Electronic resource]. URL https://seekingalpha.com/symbol/USD:RUB/historical-price-quotes(Accessed on, 03.08.2025).
17- Shiller, R. J. (2003). From Efficient Markets Theory to Behavioral Finance.
18- Shiller, R. J. (2015). Irrational Exuberance. Princeton University Press.
19- World Bank. (2023). Russia Economic Report: Turbulence and Transition.