ORIGINAL PAPER

DOI: 10.26794/2587-5671-2024-28-5-44-55
UDC 336.76(045)
JEL E44, E52, G11, G12, G15

"Monetary surprises" and Excess Return of the U.S. Mutual Funds

N.V. Artamonov[a], A.N. Kurbatskii[b], K.A. Strikalo[c]
[a, c] Moscow State Institute of International Relations (University), Moscow, Russia;
[b] Lomonosov Moscow State University, Moscow School of Economics, Moscow, Russia

ABSTRACT

The **purpose** of this paper is to conduct statistical tests to verify the impact of unexpected monetary policy shocks on the U.S. mutual funds returns over the period from December 2007 to February 2022. The authors have identified the "monetary surprises" of monetary policy shocks for the period under consideration using a high-frequency identification procedure and analyzed the Fed's monetary policy at the current stage. The model, in which excess fund return is a dependent variable, has been designed basing on the panel data on the characteristics of 457 actively managed funds with S&P 500 as a benchmark downloaded from the Bloomberg terminal. The main hypothesis about the significance of "monetary surprises" for actively managed funds performance has been confirmed for the periods 2007–2009 and 2020, when the U.S. economy was in a recession. The robustness has been tested on the models with several specifications. The authors have **concluded** that not only absolute but also relative returns depend on unexpected changes in monetary policy, while an accurate analysis of their direction allows fund managers to increase the alpha of their portfolio significantly. In view of the above, assessing the quality of managing the financial portfolio in order to select a mutual fund to invest in requires considering the fund manager's track record over the entire economic cycle.

Keywords: monetary surprise; mutual funds; active investing; excess return; S&P500 index; monetary policy; the FED; recession

For citation: **Artamonov N.V., Kurbatskii A.N., Strikalo K.A. "Monetary surprises" and excess return of the U.S. mutual funds. *Finance: Theory and Practice.* 2024;28(5):44-55. DOI: 10.26794/2587-5671-2024-28-5-44-55**

INTRODUCTION

The mutual fund industry in the United States plays a significant role in the modern financial system, accumulating vast investment resources from private investors, which attracts both practitioners and theorists to its study. However, in the context of the impact of unexpected shocks from the monetary policy of the Federal Reserve System (further — Fed) on the activities of investment funds, this topic remains insufficiently explored. The main difficulty in assessing the implemented policy is related to the problem of endogeneity of factors, as participants in financial markets form their expectations regarding the actions of the regulator. That is precisely why the question of the influence of the actions of monetary regulation bodies on the financial market is a discussion.

A particular interest from the perspective of its impact on the financial market lies in the study and analysis of the so-called "monetary surprises" of monetary policy shocks, which can be interpreted as a change in the key interest rate in the economy that is not factored in by market participants into the prices of derivative financial instruments related to that rate. The assessment of the impact of the "monetary surprises" on financial assets using the high-frequency identification (further — HFI) procedure was first applied by Kuttner [1].

Active portfolio management strategies are employed by managers with the aim of outperforming the returns of the financial market. The search for and evaluation of factors influencing the effectiveness of these funds is a fundamental issue for both representatives of the scientific community and practitioners [2–4]. As statistics show, such institutions do not guarantee stable positive returns in the long term, requiring caution even from experienced investors. On the other hand, there are several studies suggesting that actively managed funds are capable of generating excess returns during periods of heightened turbulence in financial markets [5–7]. In the context of modern macroeconomic instability and the unprecedented measures taken by regulators in monetary policy, the question of the effectiveness of fund portfolio management is relevant.

The analysis of the transmission mechanism channels of central banks' monetary policy has been one of the most popular topics for both academic representatives and market participants for several decades now. However, as noted, the impact of unexpected shocks from monetary policy on the activities of investment funds remains insufficiently studied.

The scientific novelty of this work lies in the fact that, unlike traditional approaches used to assess the impact of regulatory actions on the financial market, the authors analyze the significance of the influence of unexpected changes in the direction of the Fed's monetary policy on the excess returns of U.S. mutual funds during periods of heightened uncertainty, whose managers adhere to active investment portfolio management strategies. The work examines the time intervals from 2007 to 2022, which are selected in accordance with the periods of recessions in the U.S.

REVIEW OF THE LITERATURE

As noted earlier, an innovative approach to analyzing the impact of monetary policy shocks on asset pricing was presented in the paper [1]. The aforementioned study was conducted based on data from the US financial market for the period from 1989 to 2000, during which the impact of Federal Reserve monetary policy shocks on the yields of short-term and long-term Treasury bonds was analyzed. In this case, monetary policy shocks refer to changes in the target federal funds rate. The peculiarity of the approach lies in the fact that the author divides the shocks of monetary policy into two components: the *expected* and the *"surprise"* ones. The unexpected change in the federal funds target rate is calculated as the change in the price of

the interest rate futures contract over a short period of time before and after the statement from the Federal Open Market Committee (further — FOMC) regarding the change in the target rate. The main premise of using futures prices is that futures contracts allow market participants to hedge their risks associated with changes in interest rates and reflect all market participants' expectations regarding the future actions of those conducting monetary policy. Thus, the change in futures prices that occurred after a specific statement regarding the directions of monetary policy, while all other factors remained unchanged, can be interpreted as a "monetary surprises" or an unexpected shock to monetary policy. As a result, it turned out that the response to expected changes in the federal funds rate was quite weak, while the response to unexpected changes was strong and statistically significant.

This approach was further developed in the work [8], which assessed the impact of unexpected changes in the Fed's monetary policy on the U.S. stock market from 1989 to 2002. Researchers have proven that the influence of the "monetary surprises" is negative and significant, while the influence of the expected component is also significant but positive. The authors not only provide a quantitative assessment but also attempt to identify the channels through which this effect arises. The work [9] also concludes that the influence of the "monetary surprises"of the monetary policy shock on the stocks of companies with low capitalization, as well as on the stocks of undervalued companies based on financial indicators, known as "value stocks" is much stronger than on "growth stocks".

Some researchers believe that significant influence on the financial market is exerted not only by the actual actions of monetary regulatory authorities but also by the disclosure of information (known as Forward Guidance) regarding the intentions of the policy conducted by representatives of the Federal Open Market Committee, and that the impact of these factors varies [10].

Moreover, it is important to note that as a result of the introduction of the new monetary policy tool by the Fed — "Forward Guidance" — the uncertainty regarding the direction of monetary policy has significantly decreased compared to the beginning of this century, as the Fed shapes market expectations and investors take this information into account when opening their positions [11]. In the paper [12], the authors also analyze the impact of the Fed's Large-Scale Asset Purchases (further — LSAP) for each meeting of the FOMC Committee from 1991 to 2019.

However, in several scientific articles, the question of the influence of the "monetary surprises" of the Fed's monetary policy shocks is called into question [13, 14]. These works claim that unexpected changes in the target interest rate can be predicted with a high degree of accuracy by analyzing publicly available information about the state of the economy and financial markets prior to FOMC Committee meetings. The paper [15] states that the speeches of the Fed Chair are much more important for financial markets than the statements of the Committee. Therefore, in the paper [16], an attempt is made to take into account the majority of critical remarks regarding the HFI method and the interpretation of the definition of the "monetary surprises" of the Fed's monetary policy shocks, suggesting that attention should be paid to all possible official statements from Fed representatives about the direction of monetary policy.

In this regard, the paper [17] analyzes the impact of the unexpected "tightening" of the Fed's monetary policy (i.e., the increase in the federal funds rate) on the volumes of investments in mutual funds in the U.S., as well as on their returns during the period from 2009 to 2017. It has been concluded that an unexpected increase in interest rates in the economy has a significant impact on the performance of both equity and bond

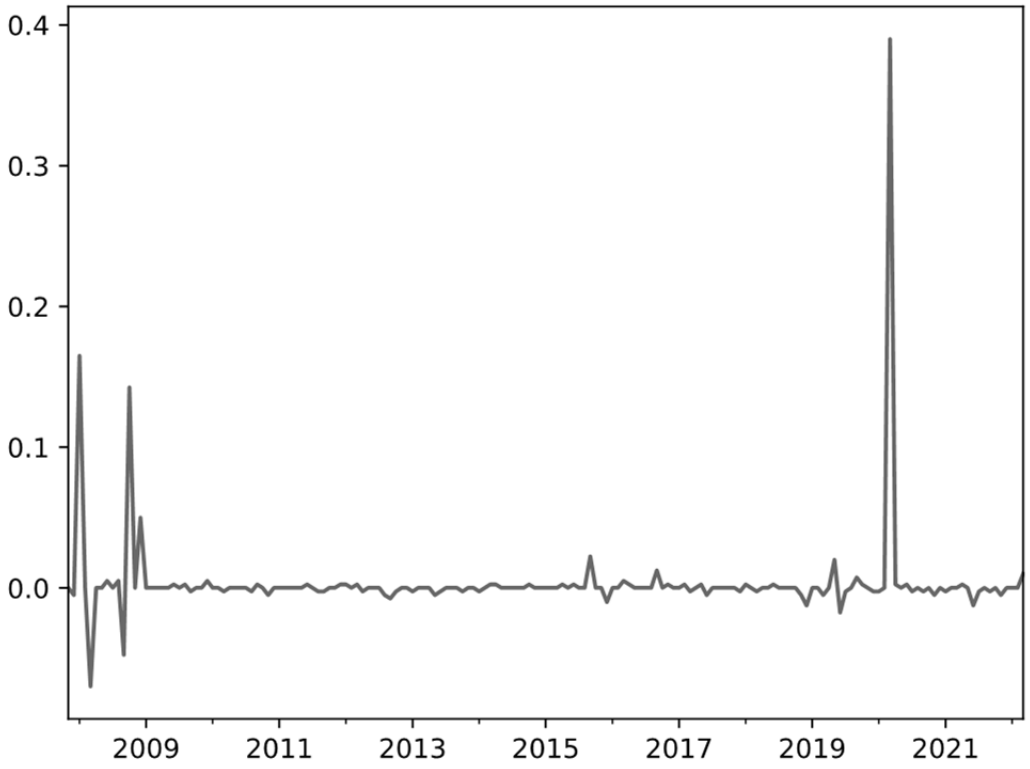

Fig. **"Monetary Surprises" over the Period from December 2007 to February 2022**

Source: Authors' calculations.

funds, leading to a decrease in the returns of these funds and a withdrawal of funds from them. Moreover, the impact of the "surprises" component varies depending on the fund's investment strategy.

In this paper, the authors propose to analyze the impact of the "monetary surprises" of monetary policy shocks on the performance of active mutual funds, with particular attention to periods of heightened uncertainty in financial markets.

EMPIRICAL ANALYSIS: "MONETARY SURPRISES" IDENTIFICATION

U.S. federal funds rate futures are not only a popular derivative financial instrument for hedging and speculation in the financial market, but they also allow for assessing market participants' expectations regarding the direction of the Fed's monetary policy.

This work examines the futures on the U.S. federal funds rate (ticker ZQ) for the current month (spot) for each meeting of the FOMC Committee from December 2007 to February 2022. The "monetary surprises" (S_t) is calculated as:

$$S_t = f_{t,close} - f_{t,open}, \quad (1)$$

where t — day of the FOMC Committee meeting; $f_{t,close}$ — futures price for the current month (spot) on the federal funds rate at the time of closing, i.e., after the FOMC decision announcement; $f_{t,open}$ — futures price for the current month (spot) on the federal funds rate at the time of opening, i.e., before the FOMC decision announcement.

The decision on the target federal funds rate is published immediately after each meeting on the official website of the Federal Reserve. During the corresponding period, 117 meetings of the FOMC Committee were held. Despite the fact that the Fed traditionally holds 8 scheduled meetings of the FOMC Committee each year in different months, there have been instances during the period

in question where the regulator held several meetings in the same month to decide on changes to the federal funds rate. In this case, the "monetary surprises" was summed up for the corresponding month. The following results were obtained (*Fig.*).

The most significant deviations in the prices of futures contracts after the FOMC Committee meeting from the expectations priced in by market participants regarding the interest rate were observed during periods of heightened uncertainty, namely during the global financial crisis from late 2007 to early 2009, during the escalation of competition between the U.S. and China in 2015–2016, and during the COVID-19 pandemic in 2019–2020. During the period of "near-zero" interest rates in the U.S. economy, significant "surprises" are absent. These results are interesting from an empirical perspective and allow us to consider the "monetary surprises" of the Fed's monetary policy shocks as a macro-factor for analyzing its impact on the activities of investment funds in the U.S.

MODEL SPECIFICATION

Investors are showing increasing interest in the selection of investment funds, so the assessment of the factors that allow funds to generate returns above the market is constantly in the spotlight. There are many different approaches to analyzing the effectiveness of portfolio management in an investment fund [18, 19]. However, it is worth noting that factor models, such as the CAPM (Capital Asset Pricing Model) and its subsequent transformations, do not provide a parametric assessment of the impact of macro-factors, which clearly cannot fail to reflect on the returns of actively managed investment funds [20]. Although successful modifications can be found under certain conditions, for example, for Russian mutual funds [21].

In the paper [4], a model was presented where the dependent variable is the excess return of funds, and a number of micro-factors based on the individual characteristics of the funds were chosen as explanatory variables, including the yield spread between long-term and short-term U.S. Treasury bonds, as well as the yield spreads of AAA-rated investment-grade corporate bonds and BAA-rated bonds, which turned out to be significant. The spreads under consideration reflect the sentiments of market participants and serve as a leading indicator for assessing their future economic activity.

Developing this approach to the analysis of macro factors affecting the returns of investment funds, this study introduced a special variable called the "monetary surprises" of shocks in the monetary policy of the Fed.

Specification of the basic panel regression of this paper:

$$\begin{aligned} excess\_return_{i,t} &= \beta_0 + \beta_1 surprise + \beta_2 \Delta^+ \left(spread.tres\right)_t + \\ &+ \beta_3 \Delta^- \left(spread.tres\right)_t + \beta_4 \Delta^+ \left(spread.moodys\right)_t + \\ &+ \beta_5 \Delta^- \left(spread.moodys\right)_t + x_i^{'}\gamma + \mu_i + u_{i,t}, \end{aligned} \quad (2)$$

where

$excess\_return_{i,t}$ — excess return of a mutual fund (the difference between the fund's return and the return of the S&P 500 index);

$surprise$ — "monetary surprises" of the Fed's monetary policy shocks;

$spread.tres$ — yield spread between 10-year and 3-month U.S. Treasury bonds;

$spread.moodys$ — the yield spread between corporate bonds rated AAA and bonds rated BAA according to Moody's classification;

Δ^+ and Δ^- — positive and negative increments over the period, i.e.

$\Delta^+ \left(spread.tres\right) = \max\left(\Delta\left(spread.tres\right), 0\right)$ and $\Delta^- \left(spread.tres\right) = \min\left(\Delta\left(spread.tres\right), 0\right)$;

x_i = (*FundFee, ExpenseRatio, Turnover, Turnover*^{2}*, log(NAV), Objective*);

γ — coefficients of fund characteristics;

μ_i — individual characteristics of the fund;

$u_{i,t}$, — random error.

The main hypothesis of this research is that the "monetary surprises" of the Fed's

Table 1

Descriptive Statistics for Mutual Funds Characteristics

Statistics	Count	Mean	St.Dev	Min	50%	Max
Fund Turnover	439	71.57	157.82	0	29.83	1453
Expense Ratio	449	1.04	0.54	0	0.99	4.07
Fund Mng Stated Fee	457	0.65	0.31	0	0.65	2
NAV	455	40.66	91.48	0.5	24.08	1683.06

Source: Authors' calculations.

monetary policy shocks is a significant factor in assessing the excess returns of mutual funds in the U.S. at the present stage.

DESCRIPTION OF THE DATA

Data from Bloomberg's terminal was extracted for the period from December 2007 to February 2022 for 457 open-end actively managed equity mutual funds registered in the United States, with the S&P 500 index as their benchmark. Index funds, ETFs, and sector-specific funds were excluded from the sample under consideration. The dataset is formed based on the structural characteristics of funds, such as the monthly return of the fund (Total Return), the turnover of capital in the fund's portfolio (Fund Turnover), the fund management stated fee, the expense ratio, the net asset value of the fund (NAV), and the fund's management style. Descriptive statistics on the structural characteristics of the funds are presented in the *Table 1*.

Here and thereafter, all calculations and model constructions are performed in the Python programming language using the Pandas and Linearmodels libraries.

Historical data on daily spot prices of futures for each month when the FOMC meeting took place regarding the federal funds rate was obtained from the Yahoo Finance database. Decisions regarding the target value of the federal funds rate are published on the official website of the Fed.

The return of the S&P 500 index was calculated as the log difference between the closing values on the last day of each month based on daily data from the Yahoo Finance database (ticker ^GSPC).

Historical monthly data on the yields of 10-year and 3-month U.S. Treasury bonds, as well as the yields of corporate bonds rated AAA and BAA by Moody's, were extracted from the Federal Reserve Bank of St. Louis database, Federal Reserve Economic Data (FRED).

EVALUATION OF THE "MONETARY SURPRISES" COMPONENT IMPACT ON THE U.S. MUTUAL FUNDS PERFORMANCE

The basic specification evaluated a random effects panel data model. To account for common external shocks for the funds (cross-correlations of idiosyncratic errors), the estimation of the covariance matrix of coefficients was performed using Driscoll-Kraay double clustering.

The model was evaluated over different time intervals in accordance with the periods of recession in the United States. According to NBER data, recessions were recorded from December 2007 to June 2009, as well as from February to April in 2020. However, for the object of study, namely the examined sample of mutual funds in the USA, the timing of the companies' financial report publication is extremely important. At the end of July 2020, companies began reporting for the second quarter, which coincided with the COVID-19 pandemic. The results turned out to be better

Table 2

Estimation Results for the Main RE Model with Individual Effects for Subperiods (Driscoll-Kraay Robust s.e. in Parenthesis)

Variable	December 2007 — June 2009	July 2009 — January 2020	February 2020 — July 2020	August 2020 — February 2022	Total period
Surprise	0.0959***	0.1247	−0.3461***	−0.3674	−0.0244
	(0.0359)	(0.2010)	(0.0018)	(0.3587)	(0.0470)
Δ^+ (spread. tres)/10^3	4.0568	0.2443	223.10***	11.865	5.1833
	(19.234)	(10.326)	(1.1492)	(13.411)	(6.8610)
Δ^- (spread. tres)/10^2	0.4502	−3.5685***	−12.236***	4.8505**	−2.0418**
	(0.9640)	(0.8020)	(0.0079)	(2.2961)	(0.9181)
Δ^+ (spread. moodys)/10^3	2.5115**	0.5422	0.9503***	25.943***	3.6549**
	(1.0057)	(3.0333)	(0.0026)	(5.0703)	(1.6172)
Δ^- (spread. moodys)/10^3	−1.4373	0.1115	−5.7486***	−2.2018	−2.1969
	(3.1281)	(2.1407)	(0.0144)	(6.3791)	(2.2889)
FundFee/10^2	1.1667*	0.1283	1.2677***	0.0520	0.3041**
	(0.5981)	(0.1633)	(0.2371)	(0.3672)	(0.1539)
ExpenseRatio/10^3	−4.5320***	−3.0836***	−7.4386***	−1.8745	−3.4595***
	(1.7151)	(0.5502)	(1.7937)	(1.6991)	(0.4652)
Turnover/10^5	−3.0595	1.3013**	1.6242	1.2541	0.8445*
	(2.3583)	(0.5498)	(3.0440)	(0.9277)	(0.4959)
Turnover2/10^8	1.3709	−1.1100***	−2.0510**	−0.6965	−0.8462***
	(1.3748)	(0.3795)	(0.9939)	(0.8518)	(0.3021)
log(NAV)/10^3	−5.0393	0.9142	−4.1651**	2.1932**	−0.0415
	(3.9692)	(0.8162)	(1.7787)	(0.9277)	(0.8417)
Objective_Blend/10^3	4.0810	2.7969**	5.9602**	3.0254	3.1440***
	(5.3873)	(1.2412)	(2.8421)	(2.2079)	(0.9814)
Objective_Growth/10^3	1.5428	3.5805**	13.928***	1.3978	3.3653***
	(3.1668)	(1.6023)	(3.6065)	(3.8496)	(1.1081)
Objective_Value/10^3	4.5772	1.5477	−8.0091**	4.9080*	2.1146*
	(6.3385)	(1.2355)	(3.6394)	(2.6362)	(1.1241)
const	0.0179	−0.0069**	−0.0072	−0.0130**	−0.0041
	(0.0154)	(0.0032)	(0.0057)	(0.0066)	(0.0027)
N	7900	46 207	1873	5708	61 688
R^2	0.0277	0.0136	0.0506	0.0269	0.0148
F	17.294	49.139	7.6193	12.128	71.209

Source: Authors' calculations.

Note: * p < 0.1; ** p < 0.05; *** p < 0.01.

than expected, so it seems reasonable to consider this moment as a starting point for analyzing the performance of mutual funds in the context of economic recovery. Taking such adjustments into account, the following periods have been considered:

- December 2007 — June 2009;
- July 2009 — January 2020 r.;
- February 2020 — July 2020;
- August 2020 — February 2022;
- December 2007 — February 2022 (whole period).

The results of the model evaluation are presented in the *Table 2*.

To verify the robustness of the assessment of the impact of the surprise component over various periods, other specifications were also considered. The page with additional materials for the article[1] presents the results of fitting alternative specifications: FE regression, RE regression, and FE regression with squared spreads. It turned out that the significance and the sign of the influence of the surprise component remain.

Thus, the "monetary surprises" of the monetary policy shocks is a significant factor for the excess returns of mutual funds in the U.S. during the subperiods of 2007–2009 and 2020, when signs of recession were observed in the U.S. The results align with the conclusions that during periods of macroeconomic instability, actively managed mutual funds are capable of generating high returns.[2] It is important to note that during the subperiod of 2007–2009, the impact of the surprise component was positive, whereas during the subperiod of February to July 2020, the impact was negative (the period of the COVID-19 pandemic). This can be explained by the fact that at the beginning of 2020, many countries announced the introduction of strict restrictive measures, and by the end of March 2020, the S&P 500 index had fallen by 34% compared to the previous month's figure.[3] In March, the Fed responded with an emergency return to a zero interest rate policy, announcing a series of measures to support national companies and "injecting" money into the financial system. Thanks to the swift response of the regulator and unprecedented fiscal and budgetary stimulus, the recovery of the economy was relatively quick.[4] However, for managers of actively managed funds, the market conditions have turned out to be quite unfavorable overall. The S&P Global SPIVA US Scorecard 2020 states that 57% of all analyzed actively managed mutual funds in the U.S. underperformed the market. It's interesting that growth-oriented funds have shown decent results compared to value-oriented funds, as the Growth segment is dominated by stocks of technology sector companies, which have become beneficiaries of the crisis brought about by the pandemic. In 2020, the return of the S&P 500 Growth market index was 33.5%, while the S&P 500 Value was 1.4%.[5] The current conditions have become difficult for managers of actively managed value funds. Companies in this segment mainly belong to cyclical industries that have been severely affected by supply chain disruptions and restrictive measures.

During the period of low interest rates and relative market certainty from July 2009 to January 2020, the impact of the "monetary surprises" turned out to be insignificant.

The spread between the yields of long-term and short-term U.S. Treasury bonds

[1] URL: http://digitlab.mgimo.ru/artamonov/surprises-and-funds (accessed on 12.02.2024).

[2] Barrons. Active stock-picking strategies gain appeal as markets fluctuate. URL: https://www.barrons.com/articles/active-stock-picking-strategies-gain-appeal-as-markets-fluctuate-51590192074 (accessed on 12.02.2024).

[3] Yahoo Finance. Historical data S&P 500. URL: https://finance.yahoo.com/quote/%5EGSPC/history?p=%5EGSPC (accessed on 12.02.2024).

[4] The New York Times. Where $ 5 Trillion in Pandemic Stimulus Money Went. URL: https://www.nytimes.com/interactive/2022/03/11/us/how-covid-stimulus-money-was-spent.html (accessed on 12.02.2024).

[5] S&P Global SPIVA US Scorecard 2020. URL: https://www.spglobal.com/spdji/en/documents/spiva/spiva-us-year-end-2020.pdf (accessed on 12.02.2024).

represents the yield curve of Treasury securities. The slope of the yield curve indicates investors' risk appetite, which can be seen as another factor influencing the performance of mutual funds. This spread turned out to be a significant factor affecting the activities of mutual funds. At the same time, the positive change in this spread was significant only during the COVID-19 pandemic, while the negative change in the spread was significant in all periods except the first.

The difference between the yields of corporate bonds turned out to be insignificant during the period of relative calm in the financial market from July 2009 to January 2020. The negative change in this spread is significant only during the COVID-19 pandemic, while the positive change in the spread is significant in all periods except the second, which aligns with the understanding of it as an indicator reflecting market participants' risk appetite.

DISCUSSION OF THE RESULTS

Sharp changes in the direction of monetary policy always have a significant impact on the stock market. However, to understand the direction of this influence, one must start from an analysis of the established conditions. Let's consider, for example, a sharp decrease in interest rates. Theoretically, this indicates that the economy is slowing down or even entering a stage of recession. Naturally, all else being equal, this is negative for the stock market. However, on the other hand, a decrease in interest rates leads to lower yields in the bond market, making bonds less attractive. This, in turn, encourages investors to invest in the stock market, which has a positive impact on asset prices. In this regard, the question arises: what is more important for an investor: the slowdown in economic growth and, consequently, the decline in company revenues, or the decrease in yields, which leads to an increase in the fair multiplier for stocks?

If we consider that the stock price is viewed as profit multiplied by a financial multiplier, then in a situation where interest rates sharply decline, one can expect a decrease in profit, but at the same time, an increase in the multiplier. During a recession, the growth of the multiplier becomes more important, and stocks respond positively to a sharp decline in interest rates.

We can suggest two reasons that explain investor behavior. Firstly, the reaction of financial market regulators is always somewhat delayed, and investors understand in advance that the economy is heading towards recession even before the interest rate is lowered (i.e., investors anticipate the decline in income ahead of time). Secondly, company revenues are cyclical, meaning that periods of decline are followed by periods of growth, and interest rates can remain low for much longer than one economic cycle lasts.

As an additional discussion to the analysis of the obtained results, it should be noted that the idea has gained popularity in academic circles that the tools of modern monetary policy are largely ineffective in influencing the real economy. For example, the policy of "interest rates" acts as a catalyst for crises, as it primarily takes into account the interests of participants in the financial market. It is a well-known fact that during a recession in the U.S., the stock market tends to have a relatively good situation. This is explained by the actions of the Fed, which provides support to the financial market through lowering interest rates (although supporting the stock market is not the primary goal of the Fed during a recession). Thus, the policies implemented by regulators at the present stage may pose a threat to macroeconomic stability [22].

CONCLUSION

This work pays special attention to the influence of the "monetary surprises" on the performance of actively managed

mutual funds in the USA during periods of macroeconomic instability and unprecedented measures by the Fed.

The results are valuable not only from a practical standpoint but also from a theoretical perspective, as they contribute to the development of existing approaches to analyzing the transmission mechanism of monetary policy in the current conditions of heightened uncertainty in financial markets and can be integrated into relevant models.

In recent years, there has been a significant increase in the role of large institutional investors, such as investment funds and banks, which have capitalized on the prevailing conditions where new liquidity immediately flows into financial markets, becoming a source of enormous profits for major speculative players. In this regard, there was a particular interest in the opportunity to study and assess the impact of monetary policy shocks on the activities of investment funds. And the hypothesis about the significance of the "surprise" component of the monetary policy shock was confirmed during the recession periods in the USA in 2007–2009 and in 2020.

Thus, taking into account all the above, it is important to note that an unexpected change in monetary policy has a significant impact on the activities of investment funds. This even affects the relative dynamics of the fund's portfolio, as choosing the right direction for monetary policy can significantly improve the fund's performance. However, this does not always fall within the responsibilities of a stock market manager. In this regard, for analyzing the quality of portfolio management of an investment fund, it is important to consider the results over the entire economic cycle: from recovery and growth to a slowdown in economic growth and recession. An investor who chooses a fund or asset manager for themselves expects to profit from the growth of the stock market. The managers take advantage of this and often showcase their results during periods of market growth. However, due to the cyclical nature of the economy, it is important to consider the entire track record of the manager, including during recessions, which are inevitable.

REFERENCES

1. Kuttner K.N. Monetary policy surprises and interest rates: Evidence from the Fed funds futures market. *Journal of Monetary Economics*. 2001;47(3):523–544. DOI: 10.1016/S 0304–3932(01)00055–1
2. Berkowitz J.P., Schorno P.J., Shapiro D.A. Characteristics of mutual funds with extreme performance. *Review of Financial Economics*. 2017;34:50–60. DOI: 10.1016/j.rfe.2017.04.003
3. Fan Y., Lin C.Y. Active vs. passive, the case of sector equity funds. *Financial Services Review*. 2020;28(2):159–177. DOI: 10.61190/fsr.v28i2.3422
4. Artamonov N.V., Kurbatskii A.N. Excess return of US mutual funds. *Vestnik MGIMO-Universiteta = MGIMO Review of International Relations*. 2023;16(3):244–262. DOI: 10.24833/2071–8160–2023–3–90–244–262
5. Kosowski R. Do mutual funds perform when it matters most to investors? US mutual fund performance and risk in recessions and expansions. *The Quarterly Journal of Finance*. 2011;1(3):607–664. DOI: 10.1142/S 2010139211000146
6. Glode V. Why mutual funds "underperform". *Journal of Financial Economics*. 2011;99(3):546–559. DOI: 10.1016/j.jfineco.2010.10.008
7. Berk J.B., Van Binsbergen J.H. Measuring skill in the mutual fund industry. *Journal of Financial Economics*. 2015;118(1):1–20. DOI: 10.1016/j.jfineco.2015.05.002
8. Bernanke B.S., Kuttner K.N. What explains the stock market's reaction to federal reserve policy? *The Journal of Finance*. 2005;60(3):1221–1257. DOI: 10.1111/j.1540–6261.2005.00760.x
9. Maio P.F. Another look at the stock return response to monetary policy actions. *Review of Finance*. 2014;18(1):321–371. DOI: 10.1093/rof/rfs050

10. Gürkaynak R., Sack B., Swanson T. E. Do actions speak louder than words? The response of asset prices to monetary policy actions and statements. *International Journal of Central Banking*. 2005;1(1):55–93. URL: https://www.ijcb.org/journal/ijcb05q2a2.pdf
11. De Pooter M., Favara G., Modugno M., Wu J. Monetary policy uncertainty and monetary policy surprises. *Journal of International Money and Finance*. 2021;112:102323. DOI: 10.1016/j.jimonfin.2020.102323
12. Swanson E. T. Measuring the effects of federal reserve forward guidance and asset purchases on financial markets. *Journal of Monetary Economics*. 2021;118:32–53. DOI: 10.1016/j.jmoneco.2020.09.003
13. Miranda-Agrippino S., Ricco G. The transmission of monetary policy shocks. *American Economic Journal: Macroeconomics*. 2021;13(3):74–107. DOI: 10.1257/mac.20180124
14. Bauer M. D., Swanson E. T. The fed's response to economic news explains the "fed information effect". NBER Working Paper Series. 2020;(27013). URL: https://www.nber.org/system/files/working_papers/w27013/revisions/w27013.rev0.pdf
15. Swanson E. T., Jayawickrema V. Speeches by the fed chair are more important than FOMC announcements: An improved high-frequency measure of U.S. monetary policy shocks. University of California, Irvine. Working Paper. 2021. URL: https://sites.socsci.uci.edu/~swanson2/papers/hfdat.pdf
16. Bauer M. D., Swanson E. T. A reassessment of monetary policy surprises and high-frequency identification. *NBER Macroeconomics Annual*. 2022;37:87–155. DOI: 10.1086/723574
17. Banegas A., Montes-Rojas G., Siga L. The effects of US monetary policy shocks on mutual fund investing. *Journal of International Money and Finance*. 2022;123:102595. DOI: 10.1016/j.jimonfin.2021.102595
18. Carhart M. M. On persistence in mutual fund performance. *The Journal of Finance*. 1997;52(1):57–82. DOI: 10.1111/j.1540–6261.1997.tb03808.x
19. Fama E. F., French K. R. A five-factor asset pricing model. *Journal of Financial Economics*. 2015;116(1):1–22. DOI: 10.1016/j.jfineco.2014.10.010
20. Artamonov N., Voronina A., Emelyanov N., Kurbatskii A. Estimation of interest rates' impact on mutual funds' performance in the USA. *Prikladnaya ekonometrika = Applied Econometrics*. 2020;(2):55–75. (In Russ.). DOI: 10.22394/1993–7601–2020–58–55–75
21. Bezsmertnaya E. R., Kolganova E. A. Modification of the three-factor Fama-French model and its application to assess the efficiency of the portfolio management of Russian investment funds. *Finance: Theory and Practice*. 2023;27(2):17–27. DOI: 10.26794/2587–5671–2023–27–2–17–27
22. Burenin A. Central bank interest rate policy as a pro-crisis instrument of macroeconomic regulation. *Journal of Modern Accounting and Auditing*. 2020;16(10):431–435. DOI: 10.17265/1548–6583/2020.10.001

ABOUT THE AUTHORS

Nikita V. Artamonov — Cand. Sci. (Phys. and Math.), Head of Department of Mathematics, Econometrics and IT, MGIMO University, Moscow, Russia
https://orcid.org/0000-0002-0286-3526
artamonov@inno.mgimo.ru

Aleksei N. Kurbatskii — Cand. Sci. (Phys. and Math.), Head of Department of Econometrics and Mathematical Methods in Economics, Moscow School of Economics, Lomonosov Moscow State University, Moscow, Russia
https://orcid.org/0000-0001-6478-8034
Corresponding author:
akurbatskiy@gmail.com

Kristina A. Strikalo — Lecturer, English Language Department No. 2, MGIMO University, Moscow, Russia
https://orcid.org/0000-0003-2280-6796
strikalo.kristina@gmail.com

Authors' declared contribution:
N. V. Artamonov — econometric analysis, tabular and graphical presentation of the results and their description.
A. N. Kurbatskii — problem statement, development of the article concept, formation of the research conclusions.
K. A. Strikalo — critical analysis of literature, data collection, preparation of the list of sources.

Conflicts of Interest Statement: The authors have no conflicts of interest to declare.

The article was submitted on 08.05.2024; revised on 08.06.2024 and accepted for publication on 27.06.2024.
The authors read and approved the final version of the manuscript.

Translated by V. Timonina