

Macroeconomic Determinants of Mutual Fund Performance: Evidence From, Albania

DORINA KOÇI, MERIL CANAMERI
Department of Finance, Faculty of Economy
University of Tirana
Street “Arben Broci”, Tirana
ALBANIA

Abstract: - This paper aims to investigate the key macroeconomic factors influencing mutual fund returns in Albania as a developing economy. Despite the growing importance of investment funds in emerging markets, research on the relationship between macroeconomic conditions and mutual fund performance in Albania remains limited. To address this gap, stepwise multiple regression analysis is employed to identify the most significant determinants affecting mutual fund returns, using annual data on GDP growth, inflation, treasury bill rates, and monetary policy rates. The results indicate that GDP growth is the only statistically significant predictor, positively associated with fund performance, while inflation, treasury bill rates, and monetary policy rates do not exhibit a statistically significant relationship during the observed period. These findings highlight the importance of broader macroeconomic conditions, particularly economic growth dynamics, in explaining investment fund outcomes and provide useful implications for fund managers and policymakers in emerging markets.

Key-Words: - Mutual Fund Returns, GDP Growth, Inflation, Treasury Bill Rate, Monetary Policy Rate, Stepwise Regression, Emerging Markets.

Received: June 29, 2025. Revised: October 8, 2025. Accepted: January 13, 2026. Published: June 17, 2026.

1 Introduction

The relationship between macroeconomic conditions and mutual fund performance has long been a central topic in financial research. Fund outcomes are particularly sensitive to fluctuations in key economic variables, as uncertainty and adverse macroeconomic developments can negatively influence investment decisions and returns [1]. Prior studies also indicate that major macroeconomic indicators play a crucial role in shaping asset prices and portfolio returns across different economic environments [2], [3].

According to [4], open-end investment funds first began to emerge in the early 19th century. Open-end investment funds experienced rapid growth in the 1920s, but shortly thereafter faced a significant setback due to poor management and the stock market crash. In the 1960s, investment funds again expanded quickly, however, the oil crisis led to a contraction in the capital market and the collapse of many fund groups [5]. The 1970s saw the introduction of innovative strategies, with investment increasingly directed toward money market instruments. This approach contributed to explosive growth in the 1990s, a trend that continued until 2008. Following a decline during the global financial

crisis, investment in funds within the Eurozone began to recover by 2010 [6].

In Albania, the mutual fund market has demonstrated steady development since its inception in 2012 and continues to show robust growth. According to the [7], thirteen open-ended public investment funds were active during the year, with the market exhibiting increasing stability compared to the previous year. This growth was reflected in net asset value, positive net flows, investor returns, and an expanding investor base. The total net assets of open-ended investment funds reached approximately ALL 55.38 billion, up 21.83% relative to end-2023, while the number of investors grew by 17.40% to 37,779. The market is predominantly invested in government bonds and treasury bills, which together account for 79.24% of total assets in this segment [7]. Furthermore, in the first half of 2025, the weight of investment funds relative to GDP increased to 2.6%, up from 2.4% in the same period a year earlier, indicating a strengthening role of collective investment vehicles in the national economy [8].

This study contributes to the existing literature by providing one of the first empirical analyses of the relationship between macroeconomic factors and mutual fund performance in Albania, a small and

emerging economy that has received limited attention in prior research. By empirically examining the impact of key variables, including inflation, treasury bill rates, GDP growth, and monetary policy rates, the study offers a comprehensive evaluation of how macroeconomic conditions shape mutual fund performance. In doing so, the findings contribute to the broader literature on developing economies, offering insights that may be relevant for similar emerging financial markets.

This paper is structured to systematically explore the effects of macroeconomic variables on mutual fund performance. It begins with a review of relevant theoretical and empirical literature, highlighting key findings and identifying gaps in existing research. The methodology section follows, detailing the research design, variable definitions, hypothesis development, and analytical techniques employed. Finally, the study presents the results, engages in a comprehensive discussion, and concludes with insights and implications for investors and policymakers, emphasizing the relevance of the findings for emerging and developing market contexts.

2 Literature Review

This section presents a comprehensive review of both theoretical and empirical studies examining the influence of macroeconomic variables on mutual fund performance. It highlights the key economic factors that shape fund returns and explores the underlying mechanisms through which these variables affect investment outcomes.

2.1 Theoretical review

This section presents the key theoretical frameworks underpinning mutual fund performance, offering a foundation for understanding how macroeconomic factors influence investment outcomes.

Modern Portfolio Theory (MPT) was introduced by [9] in his seminal work *Portfolio Selection*. The theory treats asset returns as random variables characterized by expected returns, standard deviations, and correlations, forming the basis for portfolio optimization. [9] demonstrated that investors cannot identify a single optimal portfolio; instead, they can construct a set of efficient portfolios that offer the highest expected return for a given level of risk. A key contribution of MPT is the recognition that risk should be assessed at the portfolio level, where both the variance of individual assets and their covariance with other assets determine overall portfolio risk. [10] emphasize that

Modern Portfolio Theory, originally developed by [9], forms the foundation of contemporary investment models, including those applied in mutual fund analysis. Given the focus of this study on mutual fund performance, MPT provides a strong theoretical basis for understanding the role of diversification and explaining why mutual funds may outperform less diversified investment alternatives, even during periods of economic downturn.

The Arbitrage Pricing Theory (APT), developed by [11] posits that the expected return of a portfolio is determined by multiple macroeconomic factors, each representing a distinct source of systematic risk. Unlike the Capital Asset Pricing Model (CAPM), which relies on a single market factor, APT adopts a multifactor approach, establishing a linear relationship between expected returns and their sensitivity to various risk factors. In this framework, covariance reflects non-diversifiable risk, which cannot be eliminated through portfolio diversification. [12] highlight that the Arbitrage Pricing Model (APM) is widely employed to identify key factors, such as the market portfolio, that influence expected returns on individual assets. The model assumes that the stochastic behavior of asset returns follows a factor structure, allowing investors to analyze systematic risk. A notable advantage of the APM is that it enables arbitrageurs to exploit mispriced securities, potentially generating profits while maintaining market efficiency. The Arbitrage Pricing Theory (APT) posits that the prices of risky assets conform to the law of no-arbitrage. According to [13], equity returns are influenced by a range of macroeconomic state variables, such as GDP, inflation, or interest rates, with each asset's risk premium being sensitive to the risk premium of these underlying factors.

2.2 Empirical review

Macroeconomic factors play a crucial role in shaping the performance of mutual funds, as they influence overall economic conditions, financial markets, and investor behavior. Variables such as inflation, interest rates, GDP growth, and monetary policy directly affect the cost of capital, risk perceptions, and investment decisions, thereby impacting fund returns and capital flows. Understanding the interaction between these macroeconomic indicators and mutual fund performance is essential for explaining variations in fund outcomes across different market conditions. The following sections review the empirical literature on the key macroeconomic determinants considered in this study.

2.2.1 Inflation

Inflation generally erodes the real value of interest-bearing assets, whereas equity mutual funds tend to be more resilient. However, higher inflation can push interest rates up, potentially increasing returns on these assets. Inflation also generates diverse effects across different financial assets and markets. The uneven impact of inflation across countries highlights differences in structural characteristics and varying degrees of external dependence within globally integrated financial systems, often linked to broader socioeconomic challenges [14].

Empirical evidence suggests that although higher inflation increases risk, mutual fund performance often improves [15]. Similarly, [16] report a positive correlation between inflation and the assets under management (AUM) of mutual funds. [17] also observe that inflation has a beneficial effect on the performance of equity mutual funds. [18] similarly finds that inflation exerts a positive influence on mutual fund returns.

At the same time, other research highlights negative effects. [19] observe an inverse relationship between inflation and stock returns for portfolios of large and medium-sized firms, while [20] similarly find that higher inflation adversely affects overall stock market performance. Other evidence confirms similar patterns. [21] find that high inflation consistently leads investors to reduce equity mutual fund flows, reflecting a negative relationship between inflation and fund inflows.

Overall, these findings indicate that inflation has heterogeneous effects on mutual fund performance, highlighting the importance of inflation dynamics in shaping mutual fund performance.

2.2.2 Treasury bill rate (T-bill)

The 12-month treasury bill rate is commonly used as a proxy for the risk-free interest rate in empirical studies. As a low-risk government-backed instrument, it serves as a benchmark for investment decisions. An increase in T-Bill yields tends to shift investor preferences toward safer, interest-bearing assets, reducing the attractiveness of equity mutual funds. Consequently, equity-oriented funds often exhibit an inverse relationship with T-Bill rates, as higher yields encourage a reallocation of capital away from riskier investments.

Empirical evidence indicates that interest rates exert varying effects on mutual fund performance. [15] find a negative relationship, showing that rising rates reduce the attractiveness of equity investments and can lower fund returns. In contrast, [22] document homogeneous long-run significant positive impacts of T-Bill rates on mutual fund performance,

while also identifying heterogeneous short-run significant negative effects, highlighting the complex and context-dependent influence of T-Bill rates on fund outcomes.

Some studies, such as [23], report no statistically significant relationship between interest rates and mutual fund performance, emphasizing the importance of market-specific dynamics, which may be amplified by national socioeconomic conditions. This heterogeneity reflects the macroeconomic trilemma, whereby the interaction between monetary autonomy, exchange rate flexibility, and capital mobility conditions the transmission of macroeconomic policies to mutual fund performance [24].

Overall, these mixed findings suggest that the impact of interest rates on mutual funds is highly context-dependent, shaped by market conditions, fund structure, and prevailing economic factors.

2.2.3 GDP growth

GDP growth reflects overall economic performance and the level of economic activity within an economy. An increase in GDP growth signals economic expansion, while a decline may indicate an economic slowdown or recessionary conditions. As such, GDP trends are closely monitored by investors, as improving economic conditions tend to encourage investment, whereas weakening growth may discourage participation in financial markets. Consequently, mutual fund performance is often linked to broader economic cycles, as investors adjust their strategies in line with real GDP developments.

Empirical evidence on the relationship between GDP growth and mutual fund performance remains mixed. Some studies, such as [16] and [25], report no statistically significant relationship between GDP growth and mutual fund performance. In contrast, [19] find a positive relationship between GDP growth and stock returns, particularly for portfolios of large and medium-sized firms. Supporting this view, other studies, including [26] and [22], provide further evidence of a positive relationship, suggesting that periods of economic expansion tend to enhance the performance of equity-oriented mutual funds.

Overall, these findings indicate that the impact of GDP growth on mutual fund performance is not uniform, but rather depends on market structure, fund characteristics, and broader economic conditions.

2.2.4 Monetary policy rate

Central banks typically adjust monetary policy to steer interest rates, which in turn affects aggregate demand and the difference between actual and potential output, ultimately shaping inflationary pressures [27]. An increase in the central bank policy rate leads to higher borrowing costs and interest rates, thereby reducing the capital available to mutual funds and potentially lowering their returns.

[27] investigated how bond fund flows relate to stock market performance and financial policies across both developed and developing economies. Their results indicate a negative bidirectional relationship between bond flows and market returns in developed countries when fiscal and monetary policies are active. In contrast, in developing economies, bond fund flows tend to follow past market returns. The study also finds that expansionary monetary policies reduce bond flows, whereas expansionary fiscal policies have a positive effect. Furthermore, bond funds tend to perform well during periods of low economic activity in both types of economies. [28] analyzed the relationship between monetary policy and mutual fund flows, as well as the potential implications for financial stability, using data spanning 2000–2014. Their findings indicate that unexpected tightening in monetary policy tends to trigger sustained outflows from bond mutual funds. In contrast, when monetary policy is tighter than anticipated, equity funds experience net inflows. Similarly, [29] reports a generally positive relationship between monetary policy and stock market returns.

Building on these findings, [30] emphasizes that a stable and expansionary monetary policy further supports investment by keeping inflation moderate, interest rates manageable, and the money supply predictable. This stability allows investors to plan long-term investments with greater confidence in macroeconomic conditions such as GDP and inflation. Conversely, a restrictive monetary policy, such as those implemented in the Eurozone after the COVID-19 crisis, raises interest rates and reduces money supply, which can lower the attractiveness of equity funds by increasing corporate costs and decrease bond fund returns as the value of issued bonds falls [31].

[32] find that contractionary monetary shocks strengthen the positive link between income and net wealth across countries, even though this effect does not follow a common dynamic. This indicates that central banks can directly influence wealth and income, which in turn shapes capital allocation through investment decisions. Therefore, these findings highlight the crucial role of monetary policy

in shaping investment conditions, highlighting the role of monetary policy in shaping investment conditions and mutual fund performance.

3 Methodology

This study examines the key macroeconomic determinants of mutual fund performance in a developing economy, with a focus on Albania, highlighting its relevance for policymakers and financial market participants. The analysis is based on secondary annual data from 2015 to 2024, obtained from the Albanian Financial Supervisory Authority, the Bank of Albania, and the Albanian Institute of Statistics, initially resulting in a time series dataset of 10 observations. However, due to data availability constraints and transformation requirements of the dependent variable, the final econometric estimation is conducted on a reduced sample of $N = 7$ observations, which is explicitly reported to ensure full transparency.

In order to achieve the aims of this research, multiple regression analysis is applied, a prominent statistical technique in the social sciences [33] that allows for assessing how several explanatory variables collectively influence one outcome variable [34], [35]. To determine the most relevant predictors while controlling for multicollinearity and overfitting, the stepwise regression technique is employed, which iteratively adds or removes explanatory variables based on statistical criteria, retaining only those that meaningfully explain variations in the dependent variable. Given the limited sample size and the exploratory nature of the study, stepwise regression is adopted as a parsimonious modelling approach that prioritizes model stability over excessive parameterization.

The dependent variable is mutual fund returns (RET), defined as the change in the net asset value of investment funds. To improve its statistical properties and reduce heteroscedasticity concerns, a logarithmic transformation is applied, resulting in $\ln(\text{RET})$. It is acknowledged that this transformation excludes non-positive return values, contributing to the reduction in the effective sample size. The study therefore aims to explain variations in $\ln(\text{RET})$ based on selected macroeconomic indicators.

The independent variables considered in this study are key macroeconomic indicators expected to influence mutual fund performance in Albania. These variables are selected based on established literature in financial markets and emerging economies:

Inflation (INF): Measured as the annual percentage change in the Consumer Price Index

(CPI), capturing fluctuations in the general price level that may influence the real returns and performance of mutual funds.

Treasury bill rate (DTB): Measured as the change in the 12-month government treasury bill interest rate, reflecting short-term borrowing costs and the opportunity cost of capital, which can affect investors' allocation decisions and mutual fund returns.

Gross Domestic Product growth (GDP): Represents the real annual growth rate of the economy, indicating overall economic expansion, which is expected to positively impact the performance of mutual funds through improved market conditions.

Monetary policy rate (DMPR): Measured as the change in the central bank's base interest rate resulting from monetary policy decisions, capturing the stance of monetary policy and its effect on financial markets and, consequently, on mutual fund performance.

To examine the relationship between macroeconomic indicators and mutual fund performance, the study formulates the following hypothesis:

H₀: There is no significant relationship between the selected macroeconomic variables and mutual fund returns.

The overall regression model used in this study is specified as follows:

$$\ln(\text{RET}_t) = \beta_0 + \beta_1 \text{INF}_t + \beta_2 \text{DTB}_t + \beta_3 \text{GDP}_t + \beta_4 \text{DMPR}_t + \varepsilon_t \quad (1)$$

Where the variables are defined as follows:

B₀ – regression intercept

B₁–B₄ – coefficients of the independent variables

INF_t – annual inflation rate

DTB_t – annual change in the treasury bill rate

GDP_t – real annual GDP growth rate

DMPR_t – annual change in monetary policy rate

ε_t – error term

After estimating the regression model, a series of statistical and diagnostic tests were conducted using SPSS to assess the robustness and validity of the empirical results. The overall model significance was evaluated using the ANOVA F-test, while the statistical significance of individual coefficients was assessed through t-tests, in order to identify which macroeconomic variables had a meaningful impact on mutual fund returns.

Multicollinearity among the independent variables was examined using the Variance Inflation Factor (VIF), where values above 5 indicated

potential multicollinearity concerns. The presence of serial correlation in the residuals was tested using the Durbin–Watson statistic. Finally, residual diagnostics were performed to evaluate key classical linear regression assumptions, including normality, homoskedasticity, and the zero-mean property of the error term, ensuring the adequacy of the model within an exploratory econometric framework.

Given the small-sample nature of the dataset, the empirical analysis is interpreted within an exploratory econometric framework, and results are understood as indicative rather than strictly causal. A detailed discussion of methodological limitations is provided in a separate section.

4 Discussion

This section presents a discussion of the study findings, beginning with the descriptive analysis of the variables and subsequently interpreting the regression results in the context of mutual fund performance and key macroeconomic indicators.

Table 1. presents the descriptive statistics of the dependent variable and the selected macroeconomic indicators. The results indicate that GDP growth exhibits relatively higher variability compared to inflation, the treasury bill rate, and the monetary policy rate. The dependent variable, ln(RET), is derived from a logarithmic transformation of mutual fund returns. Due to the presence of non-positive values in the original dataset, the final estimation sample is reduced to N = 7 observations, reflecting only those cases for which the transformation was feasible

Table 1. Descriptive Statistics of Dependent and Independent Variables

Variable	Mean	Std. Deviation	N
ln(RET)	21.9141	1.18221	7
INF	2.2986	1.12258	7
DTB	0.0129	0.37690	7
GDP	3.0429	3.63357	7
DMPR	0.0506	0.70932	7

Source: Authors' calculations using SPSS

Table 2. reports the Pearson correlation matrix among the study variables. The results show that ln(RET) is positively correlated with GDP growth (r = 0.789), suggesting that higher economic activity is associated with improved mutual fund performance. A strong correlation is also observed between inflation and the monetary policy rate (r = 0.941), reflecting the close relationship between price

dynamics and monetary policy responses. Other correlations with $\ln(\text{RET})$ remain relatively weak, indicating that GDP growth is the most closely associated macroeconomic factor

Table 2. Pearson Correlation Matrix of Study Variables

Variable	ln (RET)	INF	D TB	GDP	D MPR
ln (RET)	1.000	0.306	0.076	0.789	0.193
INF	0.306	1.000	0.391	0.242	0.941
DTB	0.076	0.391	1.000	-0.190	0.260
GDP	0.789	0.242	-0.190	1.000	0.249
DMPR	0.193	0.941	0.260	0.249	1.000

Source: Authors' calculations using SPSS

Table 3. reports the Variance Inflation Factor (VIF) results used to assess potential multicollinearity among the independent variables. The obtained VIF values are all close to unity, indicating a low degree of linear dependence between the explanatory variables and suggesting that multicollinearity does not pose a concern for the estimated model. Although the correlation matrix reveals a relatively strong pairwise association between inflation and the monetary policy rate, this relationship does not manifest as multicollinearity within the multivariate regression framework. This implies that, once other variables are controlled for, the explanatory variables retain sufficient independence to ensure stable and reliable coefficient estimation

Table 3. VIF Test Results

Variable	INF	DTB	GDP	DMPR
VIF	1.062	1.038	1.000	1.066

Source: Authors' calculations using SPSS

The results presented in Table 4 summarize the outcomes of the stepwise multiple regression analysis, conducted to examine the relationship between key macroeconomic indicators and mutual fund returns in Albania. The stepwise procedure allows the model to retain only those explanatory variables that make a statistically significant contribution to the variation in the dependent variable, while excluding variables with limited explanatory power.

The results indicate that GDP growth is the only statistically significant determinant of mutual fund returns. The positive coefficient of GDP ($\beta = 0.257$) suggests that a 1-percentage-point increase in real GDP growth is associated with an average increase

of approximately 0.257 units in $\ln(\text{RET})$, indicating a positive association between economic activity and fund performance. This finding is consistent with macroeconomic theory, as higher GDP growth typically reflects improved economic conditions, including stronger corporate earnings, increased investor confidence, and enhanced market liquidity.

In contrast, inflation (INF), the treasury bill rate (DTB), and the monetary policy rate (DMPR) are not statistically significant and do not contribute meaningfully to explaining variations in mutual fund returns within the stepwise specification. This may suggest a limited responsiveness of mutual fund performance in Albania to short-term fluctuations in monetary policy and inflationary pressures during the observed period. One possible explanation is that these macro-financial variables exhibited limited variability or were largely anticipated by market participants, thereby reducing their immediate impact on fund performance. Furthermore, the limited scale and evolving structure of the Albanian mutual fund market indicate that investment behavior may be more strongly shaped by long-term macroeconomic conditions than by short-term policy fluctuations.

The constant term ($\beta = 21.133$) is statistically significant and captures the baseline level of $\ln(\text{RET})$ not explained by the included macroeconomic variables.

Overall, the stepwise regression results suggest that GDP growth is the primary macroeconomic factor associated with mutual fund performance in Albania, while other variables do not provide additional explanatory power within this model specification.

Table 4. Regression Output

Variable	Coefficient (β)	t-Statistic	p-value (Sig.)
INF	0.122	0.392	0.715
DTB	0.235	0.809	0.464
GDP	0.257	2.872	0.035*
DMPR	-0.004	-0.012	0.991
Constant	21.133	52.116	<0.001**

Source: Authors' calculations using SPSS

Note: *Significance: $*p < 0.05$, $**p < 0.1$

Table 5. presents the model fit statistics for the regression model examining the influence of GDP on mutual fund returns. The model demonstrates relatively strong explanatory capacity, with $R^2 = 0.623$ and an adjusted R^2 of 0.547, suggesting that approximately 55% of the variation in mutual fund

returns is accounted for within the estimated model specification. The ANOVA results ($p = 0.035$) confirm the model's overall statistical significance. Additionally, selection criteria including AIC (-1.556), APC (0.679), Cp (0.050), and BIC (-1.664) suggest that the model achieves an appropriate balance between explanatory power and parsimony. The PRESS value of 5.115 further points to acceptable predictive performance within the limitations of the available sample. Overall, the findings provide empirical evidence supporting the relevance of GDP growth as a key factor associated with mutual fund performance in the Albanian market

Table 5. Regression Model Fitness, Significance, and Selection Criteria

Metric	Value
R ²	0.623
Adjusted R ²	0.547
Significance F (ANOVA)	0.035
Akaike Information Criterion (AIC)	-1.556
Amemiya Prediction Criterion (APC)	0.679
Mallows' Prediction Criterion (Cp)	0.050
Schwarz Bayesian Criterion (BIC)	-1.664
Prediction Sum of Squares (PRESS)	5.115

Source: Authors' calculations using SPSS

Table 6. presents the residuals and diagnostic statistics for the regression model. The mean of the residuals is approximately zero (0.000) and the standard deviation is 0.726, indicating that the residuals are centered and exhibit a relatively stable distribution. The minimum and maximum standardized residuals (-1.638 and 1.079, respectively) fall within acceptable ranges, suggesting the absence of extreme outliers. The Durbin-Watson statistic of 2.224 suggests that no substantial autocorrelation is present among the residuals, indicating that successive errors are independent over time. Together, these results provide support for the adequacy of the regression model and indicate that the residual behavior is generally consistent with the assumptions underlying the linear regression framework

Table 6. Residuals and Diagnostic Statistics

Statistic	Value
Residual Mean	0.000
Residual Std. Deviation	0.726
Minimum Residual	-1.303

Maximum Residual	0.858
Minimum Standardized Residual	-1.638
Maximum Standardized Residual	1.079
Durbin-Watson	2.224

Source: Authors' calculations using SPSS

In conclusion, the analysis suggests that GDP growth represents the main macroeconomic factor associated with mutual fund returns in Albania, highlighting the potential importance of macroeconomic expansion in shaping investment outcomes. The findings indicate that broader economic conditions, particularly trends in economic growth, may provide useful insights for investors and fund managers when evaluating portfolio strategies and risk considerations.

5 Conclusion

This study provides an empirical analysis of the relationship between macroeconomic conditions and mutual fund returns in Albania, using stepwise regression to identify the most influential determinants. The results indicate that GDP growth is the only statistically significant predictor, exhibiting a positive association with fund performance. This relationship suggests that periods of stronger economic expansion are associated with higher asset values and improved portfolio returns, highlighting the Albanian market's greater responsiveness to broader macroeconomic conditions rather than short-term fluctuations in interest rates or prices.

The stepwise regression approach allowed for a parsimonious selection of variables, excluding those with limited explanatory contribution and supporting a more focused model specification. In contrast, inflation, treasury bill rates, and the monetary policy rate were not statistically significant, which may reflect their relative stability during the observed period or the possibility that short-term adjustments in these indicators had already been incorporated into market expectations. These findings suggest that mutual fund performance in Albania is more closely associated with overall economic growth than with short-term monetary conditions, providing potentially useful insights for investors and fund managers when evaluating investment strategies within a macroeconomic context.

Diagnostic checks indicate that the estimated model satisfies acceptable statistical properties, with no evidence of substantial multicollinearity or autocorrelation. However, given the limited sample

size, the findings should be interpreted within an exploratory framework and with appropriate caution.

Based on these findings, investors and fund managers are encouraged to closely monitor broader macroeconomic developments, particularly trends in economic growth, when designing portfolio strategies and evaluating investment opportunities. Likewise, policymakers may consider the importance of maintaining stable economic conditions that support sustainable financial market development and investment performance.

Limitations and Directions for Future Research: Given that the Albanian mutual fund market is relatively young and still in a developing stage, this study incorporates all available years of data to ensure the broadest possible coverage of the market during the observed period. However, the effective sample size remains limited, which may reduce statistical power and requires caution when interpreting the findings or extrapolating the results to longer-term trends, broader market dynamics, or potential structural changes in the financial environment.

Furthermore, the analysis focuses exclusively on Albania, which restricts the generalizability of the findings to other developing countries with different economic structures, regulatory frameworks, or levels of financial market development. Future studies incorporating evidence from Balkan countries or other emerging economies may contribute to a broader understanding of the relationship between macroeconomic conditions and mutual fund performance, while also revealing potential differences and common patterns across markets with varying economic and financial characteristics.

Additionally, the study relies solely on secondary data, which may not fully capture market expectations, investor behavior, or other qualitative factors that may influence fund returns. Incorporating primary data sources, such as surveys or interviews with fund managers, institutional investors, and market participants, could provide deeper insights into decision-making processes, risk perceptions, and market dynamics, ultimately leading to more informed implications for investment practice and policy development.

References:

- [1] G. Ramey, V. Ramey, Cross-Country Evidence on the Link Between Volatility and Growth, *American Economic Review*, Vol. 85, No. 5, 1995, pp. 1138-1151.
- [2] E. F. Fama, Stock Returns, Real Activity, Inflation, and Money, *American Economic Review*, Vol. 71, No. 4, 1981, pp. 545-565.
- [3] N.-F. Chen, R. Roll, S. A. Ross, Economic Forces and the Stock Market, *Journal of Business*, Vol. 59, No. 3, 1986, pp. 383-403.
- [4] K. G. Rouwenhorst, The Origins of Mutual Funds, in *The Origins of Value*, R. Roberds (Ed.), pp. 249-270, Oxford University Press, 2004.
<https://doi.org/10.1093/oso/9780195175714.003.0016>
- [5] D. Fernando, L. F. Klapper, V. Sulla, D. Vittas, The Global Growth of Mutual Funds, SSRN Working Paper, 2003.
<https://ssrn.com/abstract=636417>
- [6] T. H. Trinth, Impact of Value Concept on GDP and Economic Growth, *International Journal of Economic Research*, Vol. 14, No. 5, 2017, pp. 13-19.
- [7] Albanian Financial Supervisory Authority, Supervisory Report 2024, Albanian Financial Supervisory Authority, Tirana, 2024, [Online].
https://amf.gov.al/pdf/publikime2/mbikeqyrje/RAPORTI_MBIKEQYRJES_2024.pdf
(Accessed Date: March 14, 2026).
- [8] Bank of Albania, Financial Stability Report for the First Half of 2025, Bank of Albania, Tirana, 2025, [Online].
https://www.bankofalbania.org/Botime/Botime_Periodike/Raporti_i_Stabilitetit_Financiar/Raporti_i_Stabilitetit_Financiar_per_gjashtemujorin_e_pare_te_vitet_2025.html (Accessed Date: March 14, 2026).
- [9] H. M. Markowitz, Portfolio Selection, *The Journal of Finance*, Vol. 7, No. 1, 1952, pp. 77-91. <https://doi.org/10.2307/2975974>
- [10] S. Z. Abidin, M. Ariff, A. M. Nassir, S. Mohammed, International Portfolio Diversification: A Malaysian Perspective, *Investment Management and Financial Innovation*, Vol. 1, No. 3, 2004, pp. 51-68.
- [11] S. A. Ross, The Arbitrage Theory of Capital Asset Pricing, *Journal of Economic Theory*, Vol. 13, No. 3, 1976, pp. 341-360.
[https://doi.org/10.1016/0022-0531\(76\)90046-6](https://doi.org/10.1016/0022-0531(76)90046-6)

- [12] D. Rasiah, P. Kim, The Effectiveness of Arbitrage Pricing Model in Modern Financial Theory, *Journal of Economics Research*, Vol. 2, No. 3, 2011, pp. 125-135.
- [13] J. Bodie, A. Kane, A. Marcus, *Investments*, McGraw-Hill Higher Education, 9th Edition, 2009.
- [14] G. Bekaert, A. Mehli, On the Global Financial Market Integration “Swoosh” and the Trilemma, *Journal of International Money and Finance*, Vol. 94, 2019, pp. 227-245. <https://doi.org/10.1016/j.jimonfin.2019.02.001>
- [15] A. Panigrahi, P. Karwa, P. Joshi, Impact of Macroeconomic Variables on the Performance of Mutual Funds: A Selective Study, *Journal of Economic Policy and Research*, Vol. 115, 2020.
- [16] M. Garg, S. Srivastava, Correlation Among the Macroeconomic Variables and Mutual Funds in India: A Descriptive Study, *International Journal of Management and Social Sciences*, Vol. 8, No. 2.4, 2019.
- [17] S. Gusni, F. Hamdani, Factors Affecting Equity Mutual Fund Performance: Evidence from Indonesia, *Investment Management and Financial Innovations*, Vol. 15, No. 1, 2018, pp.1. [http://dx.doi.org/10.21511/imfi.15\(1\).2018.01](http://dx.doi.org/10.21511/imfi.15(1).2018.01)
- [18] S. J. A. Tulamy, The Effect of Economic Factors on the Efficiency of Mutual Funds in Iran, *Technical Journal of Engineering and Applied Sciences*, Vol. 3, No. 15, 2013, pp. 1707-1711.
- [19] T. Singh, S. Mehta, M. S. Varsha, Macroeconomic Factors and Stock Returns: Evidence from Taiwan, *Journal of Economics and International Finance*, Vol. 2, No. 4, 2011, pp. 217-227.
- [20] A. Kyereboah-Coleman, K. F. Agyire-Tetteh, Impact of Macroeconomic Indicators on Stock Market Performance: The Case of Ghana Stock Exchange, *The Journal of Risk Finance*, Vol. 9, No. 4, 2008, pp. 365-378.
- [21] S. Krishnamurthy, D. Pelletier, R. S. Warr, Inflation and Equity Mutual Fund Flows, *Journal of Financial Markets*, Vol. 37, 2018, pp. 52-69.
- [22] A. Gyamfi Gyimah, B. Addai, G. K. Asamoah, Macroeconomic Determinants of Mutual Funds Performance in Ghana, *Cogent Economics & Finance*, Vol. 9, No. 1, 2021, pp. 1-20. <https://doi.org/10.1080/23322039.2021.1913876>
- [23] R. D. Garcia, Philippine Mutual Funds Performance 2008-2019, *Global Research in Higher Education*, Vol. 6, No. 1, 2023, pp. 46-56. <https://doi.org/10.22158/grhe.v6n1p46>
- [24] J. Aizenman, H. Ito, The Political-Economy Trilemma, National Bureau of Economic Research, Working Paper No. 26905, 2020, pp. 1-46. https://www.nber.org/system/files/working_papers/w26905/w26905.pdf
- [25] M. S. Coffie, An Empirical Analysis of the Impact of Macroeconomic Factors on Open-End Mutual Fund Prices in Ghana, *Ashesi University*, 2019. <http://hdl.handle.net/20.500.11988/501>
- [26] M. Garg, Shobhit, S. Srivastava, Appraising Relationship of Selected Macroeconomic Variables on Mutual Funds, *International Journal of Scientific & Technology Research*, Vol. 9, No. 2, 2020, pp. 4706-4713. https://www.academia.edu/72771040/Appraising_Relationship_Of_Selected_Macro_Economic_Variables_On_Mutual_Funds
- [27] F. Qureshi, H. H. Khan, I. Ur Rehman, S. Qureshi, A. Ghafoor, The Effect of Monetary and Fiscal Policy on Bond Mutual Funds and Stock Market: An International Comparison, *Emerging Markets Finance and Trade*, Vol. 55, No. 13, 2019, pp. 3112-3130. <https://doi.org/10.1080/1540496X.2018.1535432>
- [28] A. Banegas, G. Montes-Rojas, L. Siga, Mutual Fund Flows, Monetary Policy and Financial Stability, Finance and Economics Discussion Series 2016-071, Board of Governors of the Federal Reserve System (U.S.), 2016.
- [29] S. Hojat, The Impact of Monetary Policy on the Stock Market, Walden University, Dissertation, 2015.
- [30] B. S. Bernanke, 21st Century Monetary Policy: The Federal Reserve from the Great Inflation to COVID-19, W. W. Norton & Company, 2022.
- [31] M. Rostagno, C. Altavilla, G. Carboni, W. Lemke, R. Motto, A. Saint Guilhem, J. Yiangou, Monetary Policy in Times of Crisis: A Tale of Two Decades of the European Central Bank, Oxford University Press, 2021. <https://doi.org/10.1093/oso/9780192895912.001.0001>

- [32] N. Hauzenberger, M. Pfarrhofer, A. Stelzer, On the Effectiveness of the European Central Bank's Conventional and Unconventional Policies under Uncertainty, *Journal of Economic Behavior & Organization*, Vol. 191, 2021, pp. 822-845.
<https://doi.org/10.1016/j.jebo.2021.09.041>
- [33] M. Hardy, A. Bryman, *Handbook of Data Analysis*, Sage Publications, 2004.
<https://doi.org/10.4135/9781848608184>
- [34] I. F. A. Siegel, *Practical Business Statistics*, 8th Edition, Elsevier Inc., 2022.
<https://doi.org/10.1016/C2019-0-00330-5>
- [35] L. B. Bowerman, T. R. O'Connell, *Forecasting and Time Series: An Applied Approach*, Duxbury Press, 1993.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0

https://creativecommons.org/licenses/by/4.0/deed.en_US