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IMPACTS OF EXCHANGE RATE VOLATILITY AND INFLATION RATE ON MUTUAL FUNDS

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ABSTRACT

Examining how inflation and exchange rate fluctuation affect mutual fund performance was the aim of this research. According to the research, it is unclear how much macroeconomic factors influence mutual fund performance. Between the variables and mutual funds, some researchers find a positive link and others a negative one. Moreover, VAR model has been employed to ascertain mutual fund macroeconomic factors. Data collection has been done from Mutual Funds Association of Pakistan (MUFAP) and World Development Indicators (WDI) from 2010 -2022 in Pakistan. Interestingly, the findings showed a significant inverse association between the performance of equities funds' finances and the exchange rate. The scholarly community, managers of equity funds, and policymakers will find considerable value in the research findings. Moreover, the objectives of this study mainly deals (and are related to) three different theories on Mutual Funds.

Keywords: *Exchange rate, inflation rate, Mutual funds, Pakistan, VAR model*

INTRODUCTION

Mutual funds companies are businesses where a number of investors pool their unused savings with the express intent of investing them in a diverse portfolio of securities to lower or eliminate risk. A mutual fund firm makes investment decisions on behalf of its clients; these clients may invest in stocks, bonds, short-term money market instruments, or any other kind of securities. The three things that mutual funds (MFs) offer that set them apart from other financial institutions are economies of scale, liquidity, and diversification.The MF is the best investment option for the general people since it provides a chance to invest. Due to the Asian financial crisis 1997-1998 and the global financial crises 2008-2009 most of the investors lost their confidence, this situation brought them to look for more reliable and secure alternatives forms of investments i.e mutual funds(mishra, 2011) . According to experts, the shift towards mutual funds since the last three decades is evident from rising investment patterns of the mutual fund industry in the developing economies after stock market crashes and financial crises (biswas, 2022). Pakistan has a large investment potential, however macroeconomic factors impact the financial market activity. Over the previous five years, AUM of mutual fund industry in Pakistan has grown 57 % from 2016 until 2020. However, there is still a lot of room for growth, since mutual funds contribution to Pakistan's GDP in 2020 was just 1.6 %, compared to 101 % in the United States, 58 % in the United Kingdom. (ansari & zaman, 2021)Theories of MFs.

Literature review

The body of research on the dynamic relationship between market return and mutual fund flows is equivocal. The literature now in publication explains that investor sentiment, rather than the actual economic facts, is the primary driver of fund investments.(harris, 1986)(edelen, 1999); (Kaul, 2008)(Ben-Rephael et al., 2011)**.**This study sheds some light on performance-based studies at micro-level on MFs. Furthermore, the study elaborates the literature related to the connection between mutual funds, market variables and market economy variables (Kaul, 2008).If the currency we (Kaul, 2008)akens, the price of foreign goods will become expensive and imports will weaken.(Geske and Roll (in Miha, 2016). The weakening of imports will impact on the decline in company performance so that stock prices also decline. The results of (Agustina, 2015)and (Citraningtyas, 2016)research show that inflation has a negative effect on NAV, meaning that if inflation rises, the NAV falls and vice versa. It is different from the research conducted by (Setyarini, 2015)that inflation with NAB has a positive and significant relationship where when inflation rises, the NAV also rises. Based on the results of previous studies conducted by (Purwaningsih, 2015 and 2016), it was found that there was a significant influence of inflation, interest rates, and ICI simultaneously on mutual fund performance. The studies indicated partially that inflation had a significant effect on mutual fund performance with a negative direction of influence. Another studies shows The results show that inflation influences negatively and insignificantly on Equity Mutual Funds' NAV. IDX Composite has negative and insignificant effect on Equity Mutual Funds' NAV, and the Rupiah Exchange Rate have the positive and significant influence on Equity Mutual Funds' NAV. (Hakim L. .., 2022). Another studies shows results show that inflation and money supply variable have a significant negative influence, while the risk rate variable has a significant positive influence. This shows that the performance of the stock mutual funds is influenced by macroeconomic factors such as inflation, the level of risk of each mutual fund product and the amount of money circulating in the community.(Jl. Jalur Sutera Barat Kav.21). This study analyzes the relationship of equity and bond fund flows to stock market returns and real economic variables in nine Asian developing economies by applying panel vector auto regression techniques. The findings suggest that fund flows follow the past performance of the stock market, which confirms the feedback trading / return-chasing hypothesis. This implies that mutual funds are risk-averse in terms of their investment in the stock market. The lagged relationship between fund flows Qureshi, F., Kutan, A. M., Ghafoor, A., Khan, H. H., & Qureshi, Z. (2019). Dynamics of mutual funds and stock markets in Asian developing economies. *Journal of Asian Economics*, *65*, 101135.Another research find strong evidence to prove that MF flows are correlated to macro-economy fundamentals (jank, Mutual fund flows, expected returns, and the real economy. Journal of Banking & Finance,, 2012)Furthermore, some studies find causal relationship between MF flows and market returns (Aydogan, 2014)(Alexakis, 2005) identify mixed causal relationship between mutual fund flows and market returns. The study concludes that some mutual fund flows pose an impact on future market returns, while other fund flows are affected by past market returns. Furthermore, (Mosebach, 1999)(Cha, 2010) find positive relationship between mutual fund flows and market returns. Whereas, (Braverman, 2005)concluded that flow return relationship is negative.The results show that inflation influences negatively and insignificantly on Equity Mutual Funds' NAV. IDX Composite has negative and insignificant effect on Equity Mutual Funds' NAV, and the Rupiah Exchange Rate have the positive and significant influence on Equity Mutual Funds' NAV. (Hakim L. .., 2022). Another research by (Panigrahi, 2020) concludes that the influence of macroeconomic variables is about 52% on the performance of Mutual Funds.

The study proposes to test three established and testable theories, MFs are derived from the modern portfolio theory called Markowitz's Mean-Variance Portfolio Theory. The theory indicates to maximize the expected return of portfolio (MFs) for a given quantity of portfolio risk by carefully selecting the ratios of different assets. MPT attempts to decrease the total risk of portfolio return by merging various assets whose returns are perfectly negatively correlated. The PP theory assert that the MF flows bring price pressure (PP) to the stock market, thereby affecting the stock market returns. The effect of PP is seen in situations where MF acts as a proxy of investor sentiment. The effect is transitory and is induced by uninformed investors in which higher demand triggers up the prices temporarily and deviates them from their fundamental price value. In this scenario, investors being pessimists or optimists are not related to information(Jank S. , 2012)They put PP into the market by investing in it right away following the investor's inflow of funds (Ben-Rephael, 2011) carried out a study akin to this one, examining the application of the PP theory to MF stock aggregate flows. According to the study, PP theory predicts that the lagged inflows and outflows will indicate positive and negative returns, respectively. The reason for this is that the PP effect is transient and will eventually be reversed. Large inflows of capital are known to initially drive up the prices of securities and vice versa.(FT) theory determines the relationship and identifies the impact of feedback effect in the financial market. , 'feedback trading/herding theory (FT)' and 'information response/revelation theory (IR)'. (Ben-Rephael, 2011)(Kandel, 2011) also mention these theories in explaining the relationship of MF flows and market returns. Empirically, two main questions are asked in the literature related to flow-return relationship. The first is whether fund managers allocate funds on the basis of current market performance and the second is whether the fund flow influences security prices concurrently. Answers to these questions lie in the following three main explanations. Firstly, flows may put a transitory pressure on security prices; affecting prices positively. Thus, flows may represent investors' emotions and attitudes (investor sentiment/PP theory). Secondly, fund flow reacts to changes in market returns with strong relationship between flow of funds and the market returns of previous day (FT theory). Thirdly, if fund managers are equipped with information, flows will reflect this new information by bringing about permanent changes in prices, resulting in positive correlation between flows and prices (IR theory). The study supported feedback trading theory between returns and exchanges-in and-out. (Zheng L. , 1999)(Kim, 2005) (Kim, 2007)) and (Parwada, 2007)) find the supporting evidence related to the theory and concluded that there is a strong relationship between fund flows and the market returns of previous day. Under IR theory, positive/negative information in the financial market results in positive/negative security returns and inflows/outflows by MFs. The studies on information response (IR) theory state that neither the market variables affect the fund flows to react nor do the fund flows causing pressure in the market variables. However, there is a third variable known as macro-economic variable that causes both stock market variables and fund flows to react simultaneously to new information. (Ben-Rephael et al., 2011) explain that under IR theory, positive/negative information in the financial market results in positive/negative security returns and inflows/outflows by MFs. (Zheng L. , 1999)and (Kim, 2005) determine the link between mutual fund flows and stock market returns. They find positive link between aggregate mutual fund flows and stock market returns at the macro level. (Jank S. , 2012) examines IR theory on US equity fund and stock market returns and finds results in favor of IR theory.

Exchange rates

It is among one of the most important macroeconomic factors in any economy because it is the rate at which one currency maybe changed into another, and when these rates fluctuates the country's trade i.e imports and exports are then affected. Any corporation does not have any say in changes in these rates even the businesspeople constantly strive for a consistent shift, (Ahmad, 2010) because a sudden change in these variables can have an impact on the business's profitability and returns. Hence, usually when there is a change in exchange rates that also brings dramatic volatility in stock markets. Many macroeconomic factors and issues affect the stock markets. With the increment in interest rates increases, the cost of doing business hence reduces the returns and profits. Whereas on the other hand a decrease in the interest rate sends a positive, message to the markets and increases the stock market returns. The study's main findings include: during the economic downturn mutual funds outperformed stock exchanges (both in terms of returns and risks); a shift was observed in investors behavior in terms of investments, many moved from investing in high-risk assets (equity) to investing in low-risk assets (bonds and monetary assets); and there were more similarities than differences in the evolutions of mutual funds and stock exchanges (Nicolescu, 2020) Most of the study shows that mutual funds outperform stock markets, particularly during economic downturns.The exchange rate policy has a large influence on the company's transaction activities, especially companies that depend on imports and are oriented to foreign markets. This can occur because the magnitude of the exchange rate will affect the price of goods traded, as well as affect the amount of investment.

Table 1.0: The following table shows the currency rates from 2010 to 2022.

Year	Exchange rate index (2010 = 100)
2010	100
2011	102.4230389
2012	103.7973716
2013	100.8818881
2014	107.8166002
2015	116.0080514
2016	119.6682319
2017	121.6481527
2018	107.2628028
2019	97.25421738
2020	97.56763859
2021	100.2553243
2022	96.99166601

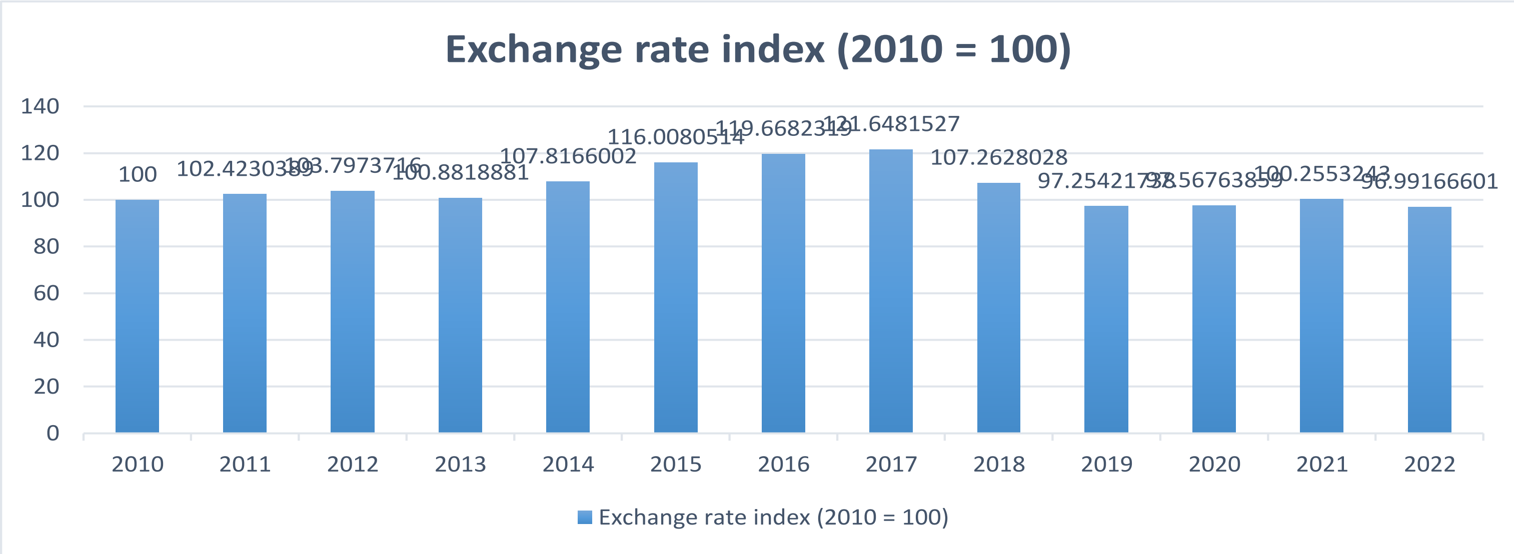

Figure:1.0 Exchange Rate From 2010 – 2022

Inflation

Year	Inflation
2010	12.93887
2011	11.91609
2012	9.682352
2013	7.692156
2014	7.189384
2015	2.529328
2016	3.765119
2017	4.085374
2018	5.078057
2019	10.57836
2020	9.739993
2021	9.496211
2022	19.87386

Table:1.1

Inflation is the rate of increase in prices of products and services over a given time period. It is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. The main reason behind the increment of inflation is More jobs and higher wages increase household incomes and lead to a rise in consumer spending, further increasing aggregate demand and the scope for firms to increase the prices of their goods and services. When this happens across a large number of businesses and sectors, this leads to an increase in inflation. Considerable amount of reduction in the rate of inflation has been noticed globally. The top most concern for the emerging nations is to control the inflation, and the impact of economic reform on emerging stock markets must be assessed. According to Bank Indonesia, inflation is defined as an increase in the money supply or an increase in liquidity in an economy. This definition refers to the general symptoms caused by an increase in the money supply which is thought to have caused an increase in the price of the price. Inflation is a continuous process of increasing general prices. Inflation will cause a decrease in people's purchasing power, because in real terms the level of income also decreases. In general, inflation is an event or process of increasing prices in general and continuously. In other words, inflation is also a process of decreasing sustainable currency values. Uncontrolled inflation or inflation occurs when the price increase is above 100% a year.

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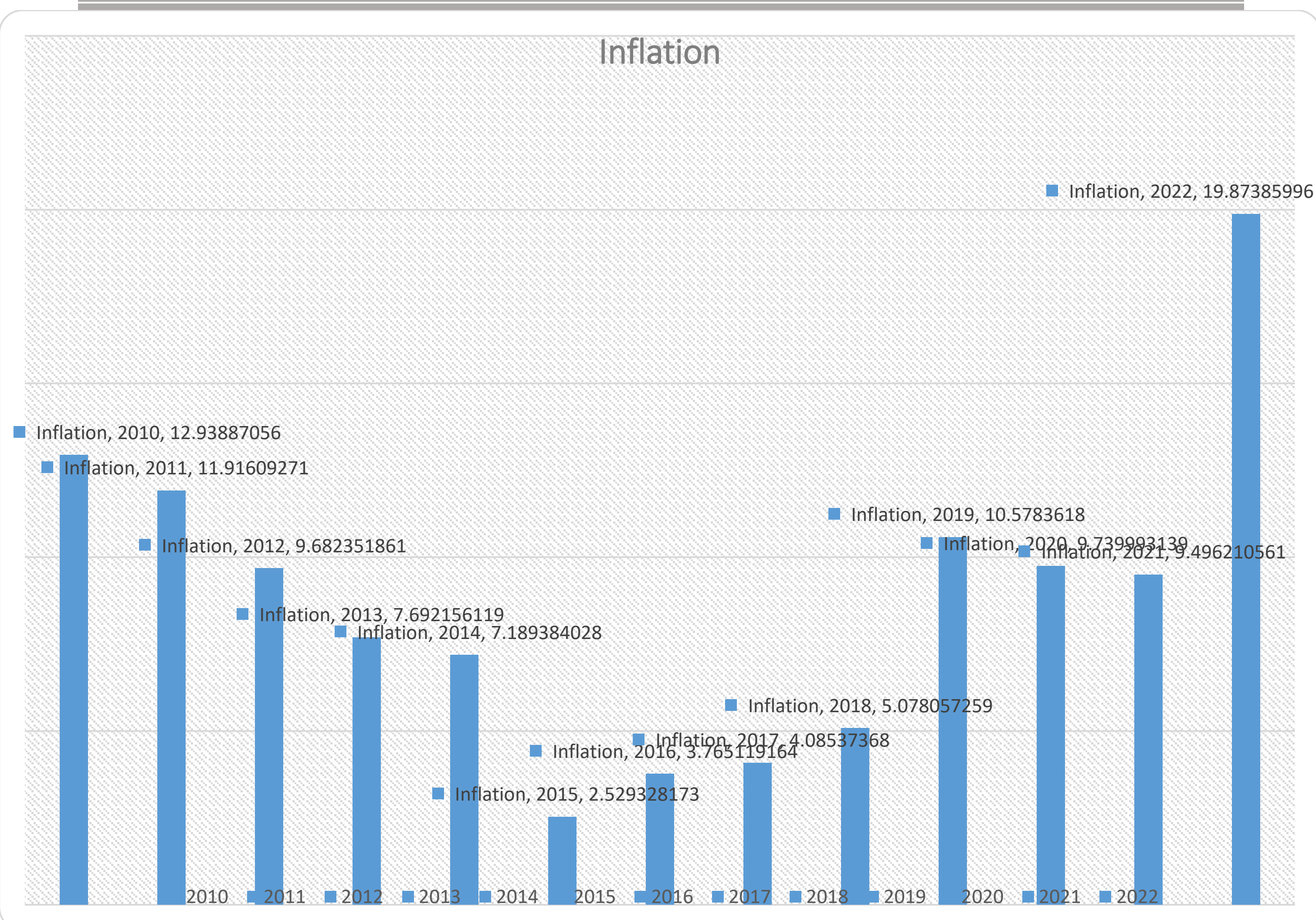


Figure 1.2 Inflation Rate from 2010-2022

The Economic Relationship of MFs and Market Variables

Investors are more inclined and drawn to financial goods than physical assets in the age of financial intermediation. Mutual funds have carved out their own niche among the different financial market choices such as shares, debentures, bonds, and so on. Pakistan has a great investment potential, but there are some macroeconomic variables such as GDP, inflation, gold prices, and so on that directly or indirectly impact the movement of the financial market. Macroeconomic variables are systematic risks that cannot be regulated by any internal or external authority, and they are affected by a variety of circumstances such as the global crisis, crude oil, inflation, currency rates, and so on. Investors are sometimes tempted to engage in the financial market, but they resist owing to uncontrolled circumstances and economic instability.

According to the researcher, the goal is to identify the components that have a direct or indirect impact on the growth of the mutual fund industry (Mandakini Garg, 2020).

Objectives of the Study:

The main objective of the study is to examine the impact of Open- Ended Mutual fund on market performance in Pakistan. Specifically, this study is designed to achieve the following objectives:

RO1: To probe the impact of the exchange rate on open-ended Mutual Funds Market performance.

RO2. To examine the impact of inflation on open-ended Mutual Funds Market performance.

Research questions:
1: does the exchange rate volatility have a significant impact on open-ended mutual fund market performance?
2: does the inflation rate have a significant impact on open-ended mutual fund market performance?

Hypotheses
H1: Exchange rate has (positive\negative) significant impact on Open-Ended Mutual Fund Market performance.
H0: Exchange rate does not have significant impact on Open-Ended Mutual Fund Market performance.
H2: inflation rate has a (positive\negative) significant impact on open-ended mutual fund market performance.
H0: inflation rate does not have a significant impact on open-ended mutual fund market performance.

Research methodology:
Data collection has been done from Mutual Funds Association of Pakistan (MUFAP) and World Development Indicators (WDI) from 2010 -2022 in Pakistan. Several analysis and testing methods have been used i.e VAR (vector autoregressive) model. To further verify the results coefficient diagnostic test, WALD test has been carried out.

VAR (Vector Autoregressive) Model
Vector Autoregressive (VAR) models are widely used in time series research to examine the dynamic relationships that exist between variables that interact with one another.

Statistical Presentation of VAR

$$Yt=\alpha1+ ϐ11\ Yt\text{-}1++ ϐ12\ Xt\text{-}1+ Ut$$
$$Xt=\alpha2+ ϐ21\ Yt\text{-}1++ ϐ22\ Xt\text{-}1+Vt$$

VAR- Model of the Study

$$LRMFt = \alpha+ \Sigma Ki= ϐi\ LRMFt\text{-}i+ \Sigma kj= 1\ \phi j\ LEXRt\text{-}j+ \Sigma km= 1\ \phi m\ LINF+ \mu\ 1t$$
$$LEXRt = \alpha+ \Sigma Ki= 1ϐi\ LRMFt\text{-}i+ \Sigma kj= 1\ \phi\ LEXRt\text{-}j+ \Sigma km= 1\ \phi m\ LINFt\text{-}m+ \mu\ 2t$$
$$LINFt = \beta+ \Sigma Ki=1\ ϐo\ LRMFt\text{-}i+ \Sigma kj= 1\ \phi\ LEXRt\text{-}j+ \Sigma km= 1\ \phi m\ LINF+ \mu\ 3t$$

- **VAR**

Dependentvariable
- Here , RMF = Return on Mutual funds

Independent variable
- INF= Inflation
- EXR= Exchange rate

Research Techniques / Test

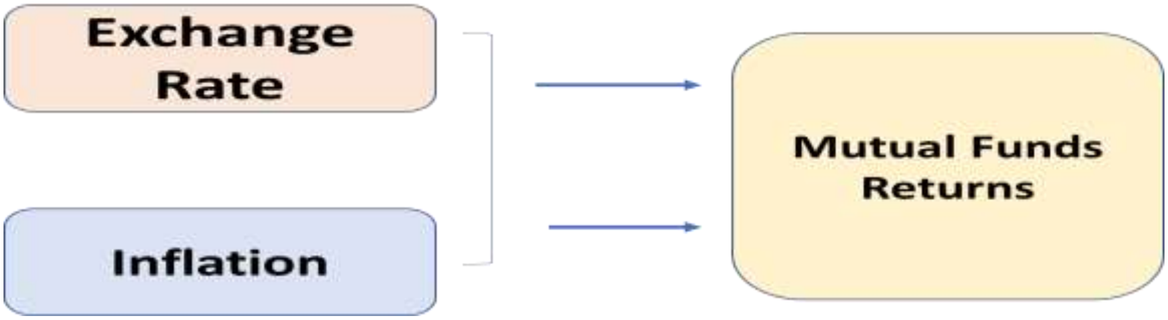
VAR (Vector Autoregressive test)
Lag selection criteria
Jonson Cointegration

Diagnostic Tests
Coefficient Diagnostic test
- WALD Test

Residual Diagnostic Test
- Breusch-Godfrey Serial Correlation LM Test
- Heteroskedasticity Test: Breusch-Pagan-Godfrey
- Correlogram Q statistics
- Correlogram Squared residuals.

Stability diagnostic Tests
- Recursive Estimates

Research model



Exchange rate

At level

Null Hypothesis: LEXR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.184038	0.6807
Test critical values:	1% level	-3.473382	
	5% level	-2.880336	
	10% level	-2.576871	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LEXR)
Method: Least Squares
Date: 10/13/23 Time: 02:05
Sample (adjusted): 2010M02 2022M10
Included observations: 153 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEXR(-1)	-0.020520	0.017330	-1.184038	0.2383
C	0.044380	0.037674	1.178026	0.2406

R-squared	0.009199	Mean dependent var	-0.000200
Adjusted R-squared	0.002637	S.D. dependent var	0.016192
S.E. of regression	0.016170	Akaike info criterion	-5.398286
Sum squared resid	0.039484	Schwarz criterion	-5.358673
Log likelihood	414.9689	Hannan-Quinn criter.	-5.382194
F-statistic	1.401946	Durbin-Watson stat	1.977876
Prob(F-statistic)	0.238259		

At first difference and intercept

Null Hypothesis: D(LEXR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-12.24934	0.0000
Test critical values:	1% level	-3.473672	
	5% level	-2.880463	
	10% level	-2.576939	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LEXR,2)
Method: Least Squares
Date: 10/13/23 Time: 02:11
Sample (adjusted): 2010M03 2022M10
Included observations: 152 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LEXR(-1))	-1.000154	0.081650	-12.24934	0.0000
C	-0.000201	0.001322	-0.152014	0.8794

R-squared	0.500077	Mean dependent var	0.000000
Adjusted R-squared	0.496744	S.D. dependent var	0.022976
S.E. of regression	0.016299	Akaike info criterion	-5.382316
Sum squared resid	0.039850	Schwarz criterion	-5.342528
Log likelihood	411.0560	Hannan-Quinn criter.	-5.366153
F-statistic	150.0462	Durbin-Watson stat	2.000000
Prob(F-statistic)	0.000000		

INF at Level

Null Hypothesis: LINF has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.083004	0.7218
Test critical values:	1% level	-3.473382	
	5% level	-2.880336	
	10% level	-2.576871	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LINF)
Method: Least Squares
Date: 10/13/23 Time: 02:13
Sample (adjusted): 2010M02 2022M10
Included observations: 153 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LINF(-1)	-0.020806	0.019211	-1.083004	0.2805
C	-0.006900	0.013701	-0.503588	0.6153

R-squared	0.007708	Mean dependent var	0.002805
Adjusted R-squared	0.001136	S.D. dependent var	0.128277
S.E. of regression	0.128204	Akaike info criterion	-1.257396
Sum squared resid	2.481891	Schwarz criterion	-1.217783
Log likelihood	98.19083	Hannan-Quinn criter.	-1.241305
F-statistic	1.172898	Durbin-Watson stat	1.974987
Prob(F-statistic)	0.280533		

Inflation rate at 1st difference

Null Hypothesis: D(LINF) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=13)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-12.25338	0.0000
Test critical values:	1% level	-3.473672	
	5% level	-2.880463	
	10% level	-2.576939	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LINF,2)
Method: Least Squares
Date: 10/13/23 Time: 02:14
Sample (adjusted): 2010M03 2022M10
Included observations: 152 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LINF(-1))	-1.000484	0.081650	-12.25338	0.0000
C	0.002825	0.010476	0.269642	0.7878

R-squared	0.500242	Mean dependent var	0.000000
Adjusted R-squared	0.496911	S.D. dependent var	0.182055
S.E. of regression	0.129129	Akaike info criterion	-1.242933

Sum squared resid	2.501160	Schwarz criterion	-1.203145
Log likelihood	96.46290	Hannan-Quinn criter.	-1.226770
F-statistic	150.1454	Durbin-Watson stat	2.000000
Prob(F-statistic)	0.000000		

LRMF at level
Null Hypothesis: LRMF has a unit root
Exogenous: Constant
Lag Length: 10 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.416094	0.1495
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LRMF)
Method: Least Squares
Date: 10/13/23 Time: 02:15
Sample (adjusted): 2016M11 2021M08
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LRMF(-1)	-1.309159	0.541849	-2.416094	0.0389
D(LRMF(-1))	0.323895	0.346483	0.934807	0.3743
D(LRMF(-2))	-0.173817	0.289488	-0.600430	0.5630
D(LRMF(-3))	-0.276274	0.324758	-0.850707	0.4170
D(LRMF(-4))	-0.456401	0.242186	-1.884505	0.0921
D(LRMF(-5))	-0.404485	0.164745	-2.455218	0.0364
D(LRMF(-6))	-0.069119	0.155209	-0.445326	0.6666
D(LRMF(-7))	-0.266214	0.149779	-1.777373	0.1092
D(LRMF(-8))	-0.246034	0.181356	-1.356635	0.2079
D(LRMF(-9))	-0.171562	0.175796	-0.975916	0.3546
D(LRMF(-10))	-0.210524	0.193071	-1.090397	0.3039
C	-4.429308	1.934865	-2.289207	0.0478

R-squared	0.879485	Mean dependent var	0.089074
Adjusted R-squared	0.732190	S.D. dependent var	1.036906
S.E. of regression	0.536603	Akaike info criterion	1.888441
Sum squared resid	2.591481	Schwarz criterion	2.485311
Log likelihood	-7.828632	Hannan-Quinn criter.	2.017977
F-statistic	5.970889	Durbin-Watson stat	2.165924
Prob(F-statistic)	0.006099		

LRMF at 1st difference

Null Hypothesis: D(LRMF) has a unit root
Exogenous: Constant
Lag Length: 11 (Automatic - based on SIC, maxlag=11)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.260131	0.0363
Test critical values:	1% level	-3.959148	
	5% level	-3.081002	
	10% level	-2.681330	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 15

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LRMF,2)
Method: Least Squares
Date: 10/13/23 Time: 02:17
Sample (adjusted): 2017M01 2021M08
Included observations: 15 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LRMF(-1))	-9.702658	2.976155	-3.260131	0.0826
D(LRMF(-1),2)	8.137083	2.827911	2.877419	0.1025
D(LRMF(-2),2)	7.014417	2.654325	2.642637	0.1183
D(LRMF(-3),2)	6.096119	2.400821	2.539181	0.1264
D(LRMF(-4),2)	5.269010	2.100964	2.507901	0.1289
D(LRMF(-5),2)	3.947831	1.849308	2.134761	0.1663
D(LRMF(-6),2)	3.712819	1.511398	2.456546	0.1334
D(LRMF(-7),2)	3.258521	1.282234	2.541283	0.1262
D(LRMF(-8),2)	2.314764	1.013834	2.283179	0.1499
D(LRMF(-9),2)	2.127706	0.829423	2.565283	0.1243
D(LRMF(-10),2)	0.978207	0.522265	1.873010	0.2019
D(LRMF(-11),2)	0.833436	0.310376	2.685243	0.1152
C	0.282532	0.231507	1.220404	0.3467

R-squared	0.983048	Mean dependent var	0.104366
Adjusted R-squared	0.881337	S.D. dependent var	1.687301
S.E. of regression	0.581234	Akaike info criterion	1.471104
Sum squared resid	0.675666	Schwarz criterion	2.084748
Log likelihood	1.966720	Hannan-Quinn criter.	1.464567
F-statistic	9.665063	Durbin-Watson stat	2.413557
Prob(F-statistic)	0.097497		

Test as VAR …to decide for model VECM or VAR to apply.

LRMF
VECM

Date: 10/13/23 Time: 03:26
Sample (adjusted): 2014M04 2022M08
Included observations: 67 after adjustments
Trend assumption: Linear deterministic trend
Series: LRMF LEXR LINF
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.143468	11.51027	29.79707	0.9475
At most 1	0.014822	1.134400	15.49471	0.9999
At most 2	0.001997	0.133926	3.841466	0.7144

Trace test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.143468	10.37587	21.13162	0.7088
At most 1	0.014822	1.000474	14.26460	0.9999
At most 2	0.001997	0.133926	3.841466	0.7144

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

LRMF	LEXR	LINF
-1.403181	10.60255	1.900230
-0.101319	-27.26098	-4.307574
-0.129532	-6.657860	0.980282

Unrestricted Adjustment Coefficients (alpha):

D(LRMF)	0.363790	-0.010351	-0.006656

D(LEXR)	-0.000208	-0.001877	2.30E-05
D(LINF)	0.007027	0.019267	0.003360

1 Cointegrating Equation(s):		Log likelihood	169.1692

Normalized cointegrating coefficients (standard error in parentheses)

LRMF	LEXR	LINF
1.000000	-7.556079	-1.354230
	(6.55658)	(1.02252)

Adjustment coefficients (standard error in parentheses)

D(LRMF)	-0.510463
	(0.16537)
D(LEXR)	0.000292
	(0.00282)
D(LINF)	-0.009860
	(0.03216)

2 Cointegrating Equation(s):		Log likelihood	169.6695

Normalized cointegrating coefficients (standard error in parentheses)

LRMF	LEXR	LINF
1.000000	0.000000	-0.155897
		(0.70096)
0.000000	1.000000	0.158592
		(0.07350)

Adjustment coefficients (standard error in parentheses)

D(LRMF)	-0.509414	4.139283
	(0.16579)	(3.44712)
D(LEXR)	0.000482	0.048955
	(0.00281)	(0.05833)
D(LINF)	-0.011812	-0.450728
	(0.03205)	(0.66639)

In these results, both the trace values and Maximum Eigenvalues have no equation significant on cointegration. Therefore, we must go for another model and apply VAR instead of VECM. The following model shows VAR model application.

VAR Model

Lag Selection

VAR Lag Order Selection Criteria
Endogenous variables: DLRMF DLEXR DLINF
Exogenous variables: C
Date: 10/13/23 Time: 04:04
Sample: 2010M01 2022M10
Included observations: 145

Lag	LogL	LR	FPE	AIC	SC	HQ
0	834.0640	NA	2.11e-09	-11.46295	-11.40136*	-11.43793
1	852.8465	36.52875	1.84e-09*	-11.59788*	-11.35153	-11.49778*
2	859.0507	11.80932	1.92e-09	-11.55932	-11.12821	-11.38414
3	866.2349	13.37740	1.97e-09	-11.53427	-10.91840	-11.28402
4	873.9559	14.05756	2.00e-09	-11.51663	-10.71599	-11.19131
5	883.5648	17.09728	1.99e-09	-11.52503	-10.53963	-11.12463
6	885.6241	3.578886	2.19e-09	-11.42930	-10.25913	-10.95382
7	897.5821	20.28733*	2.11e-09	-11.47010	-10.11517	-10.91954
8	899.7527	3.592815	2.33e-09	-11.37590	-9.836210	-10.75027

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

This is the optimal lag selection and it is at lag 1 in majority of the criteria test also AIC suggest this lag.

Cointegration test Johnsen Cointegration test

VAR : Ist result
Vector Autoregression Estimates
Date: 10/13/23 Time: 04:13
Sample (adjusted): 2014M04 2022M08
Included observations: 67 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	DLRMF	DLEXR	DLINF
DLRMF(-1)	-0.376908	-0.002446	0.026696
	(0.11420)	(0.00181)	(0.02062)
	[-3.30038]	[-1.35403]	[1.29443]
DLRMF(-2)	-0.461313	0.001692	-0.013473
	(0.10647)	(0.00168)	(0.01923)
	[-4.33291]	[1.00453]	[-0.70072]
DLEXR(-1)	20.03777	-0.012772	0.178621
	(8.48353)	(0.13420)	(1.53207)
	[2.36196]	[-0.09517]	[0.11659]
DLEXR(-2)	-10.54853	0.058637	-0.597059
	(7.72197)	(0.12216)	(1.39454)
	[-1.36604]	[0.48001]	[-0.42814]

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DLINF(-1)	2.312752	-0.003782	0.036889
	(1.02647)	(0.01624)	(0.18537)
	[2.25312]	[-0.23290]	[0.19900]
DLINF(-2)	-0.486226	0.000866	-0.013180
	(1.13191)	(0.01791)	(0.20442)
	[-0.42956]	[0.04835]	[-0.06447]
C	0.011783	0.000205	0.002202
	(0.13138)	(0.00208)	(0.02373)
	[0.08969]	[0.09855]	[0.09281]
R-squared	0.372506	0.064972	0.048942
Adj. R-squared	0.309757	-0.028531	-0.046163
Sum sq. resids	63.77534	0.015960	2.079962
S.E. equation	1.030981	0.016309	0.186188
F-statistic	5.936417	0.694867	0.514610
Log likelihood	-93.41646	184.4007	21.25460
Akaike AIC	2.997506	-5.295543	-0.425510
Schwarz SC	3.227847	-5.065202	-0.195169
Mean dependent	-0.046716	-0.000164	0.005992
S.D. dependent	1.240937	0.016082	0.182034

Determinant resid covariance (dof adj.)	2.09E-06
Determinant resid covariance	1.50E-06
Log likelihood	163.9813
Akaike information criterion	-4.268098
Schwarz criterion	-3.577075
Number of coefficients	21

2nd test Var

Date: 10/13/23 Time: 04:15
Sample (adjusted): 2014M05 2022M08
Included observations: 59 after adjustments
Trend assumption: Linear deterministic trend
Series: DLRMF DLEXR DLINF
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.495545	84.89060	29.79707	0.0000
At most 1 *	0.404089	44.51824	15.49471	0.0000
At most 2 *	0.210915	13.97602	3.841466	0.0002

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.495545	40.37236	21.13162	0.0000
At most 1 *	0.404089	30.54222	14.26460	0.0001
At most 2 *	0.210915	13.97602	3.841466	0.0002

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

DLRMF	DLEXR	DLINF
-0.629550	-146.2618	-12.89939
-2.208060	54.74042	4.625543
0.105076	3.813515	-11.55045

Unrestricted Adjustment Coefficients (alpha):

D(DLRMF)	0.303127	0.750169	0.031538
D(DLEXR)	0.006349	0.000156	-0.007450
D(DLINF)	-0.002004	-0.018395	0.083488

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		Unrestricted Cointegration Rank Test (Maximum Eigenvalue)	Unrestricted Cointegration Rank Test (Maximum Eigenvalue)	Unrestricted Cointegration Rank Test (Maximum Eigenvalue)
Hypothesized No. of CE(s)	No. of CE(s)	No. of CE(s)	No. of CE(s)	No. of CE(s)
None * At most 1 * At most 2 *	None * At most 2 *	None * At most 2 *	None * At most 2 *	None * At most 1 * At most 2 *
Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level	Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level	Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level	Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level	Max-eigenvalue test indicates 3 cointegrating

* denotes rejection of the hypothesis at the 0.05 level	* denotes rejection of the hypothesis at the 0.05 level	* denotes rejection of the hypothesis at the 0.05 level	* denotes rejection of the hypothesis at the 0.05 level	eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values
**MacKinnon-Haug-Michelis (1999) p-values	**MacKinnon-Haug-Michelis (1999) p-values	**MacKinnon-Haug-Michelis (1999) p-values	**MacKinnon-Haug-Michelis (1999) p-values	

2 Cointegrating Equation(s): Log likelihood 148.6163

Normalized cointegrating coefficients (standard error in parentheses)

DLRMF	DLEXR	DLINF
1.000000	0.000000	0.082753
		(0.86551)
0.000000	1.000000	0.087838
		(0.01096)

Adjustment coefficients (standard error in parentheses)

D(DLRMF)	-1.847251	-3.271422
	(0.30975)	(21.0679)
D(DLEXR)	-0.004342	-0.920136
	(0.00561)	(0.38143)
D(DLINF)	0.041878	-0.713827
	(0.05889)	(4.00554)

1 Cointegrating Equation(s): Log likelihood 133.3452

Normalized cointegrating coefficients (standard error in parentheses)

DLRMF	DLEXR	DLINF
1.000000	232.3274	20.48984
	(34.9477)	(4.00904)

t= 6.647*** t= 5.110***

t stat are significant, and positive however the results are interpreted inversely meaning that the DLEXR and DLINF are inversely influencing the DLRMF.
Proc equation result by taking first equation

Dependent Variable: DLRMF
Method: Least Squares (Gauss-Newton / Marquardt steps)
Date: 10/13/23 Time: 04:19
Sample (adjusted): 2014M04 2022M08
Included observations: 67 after adjustments
DLRMF = C(1)*DLRMF(-1) + C(2)*DLRMF(-2) + C(3)*DLEXR(-1) + C(4)
*DLEXR(-2) + C(5)*DLINF(-1) + C(6)*DLINF(-2) + C(7)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.376908	0.114201	-3.300378	0.0016
C(2)	-0.461313	0.106467	-4.332909	0.0001
C(3)	20.03777	8.483530	2.361961	0.0214
C(4)	-10.54853	7.721973	-1.366041	0.1770
C(5)	2.312752	1.026466	2.253121	0.0279
C(6)	-0.486226	1.131909	-0.429563	0.6691
C(7)	0.011783	0.131380	0.089687	0.9288

R-squared	0.372506	Mean dependent var	-0.046716
Adjusted R-squared	0.309757	S.D. dependent var	1.240937
S.E. of regression	1.030981	Akaike info criterion	2.997506
Sum squared resid	63.77534	Schwarz criterion	3.227847
Log likelihood	-93.41646	Hannan-Quinn criter.	3.088653
F-statistic	5.936417	Durbin-Watson stat	2.001607
Prob(F-statistic)	0.000065		

Overall interpretation of results:
Optimal lag is one. In Johnsen Cointegration, Test Trace and Maximum Eigen Test proves that there is no cointegrating equation. Therefore, VAR can be estimated. In VAR all variables are stationary at first difference. Short run relationship can only be estimated for Return on Mutual funds (RMF) itself both the lagged period has negative influence on current period. The absolute values of the coefficient of the second period lag have a greater influence on RMF at current period than that of first order lag. Based on WLD Test both the lags can jointly influence itself. Exchange rate is negatively related to RMF. In the first lagged period exchange rate has a positive influence on RMF at current period but in the one lagged period , Exchange rate has a negative influence on RMF at current period, which is lesser than the former. So, in the short term the rising Exchange rate can decrease the RMF. Based on Wald test both the lags can jointly influence RMF. In the case of INF the first lag has positive and significant influence and in the second lagged period has negative but in significant impact on RMF. In the test of cointegration both the EXR and INF have negative and significant influence on RMF in the short run.

Coefficient diagnostics all are good
Wald Test

C(1) = c(2)=0

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	11.38604	(2, 60)	0.0001
Chi-square	22.77209	2	0.0000

Null Hypothesis: C(1)= C(2)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	-0.376908	0.114201
C(2)	-0.461313	0.106467

Restrictions are linear in coefficients.

Lag I LRMF and Lag 2 LRMF can influence itself , Because F and Chi Square are significant
C(3)= C(4)=0

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	3.659377	(2, 60)	0.0317
Chi-square	7.318754	2	0.0257

Null Hypothesis: C(3)=C(4)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(3)	20.03777	8.483530
C(4)	-10.54853	7.721973

Restrictions are linear in coefficients.

LEXR and LINF, they can jointly influence LRMF
F and Chi Sq also significant
C (5) =C(6)=0

Wald Test:

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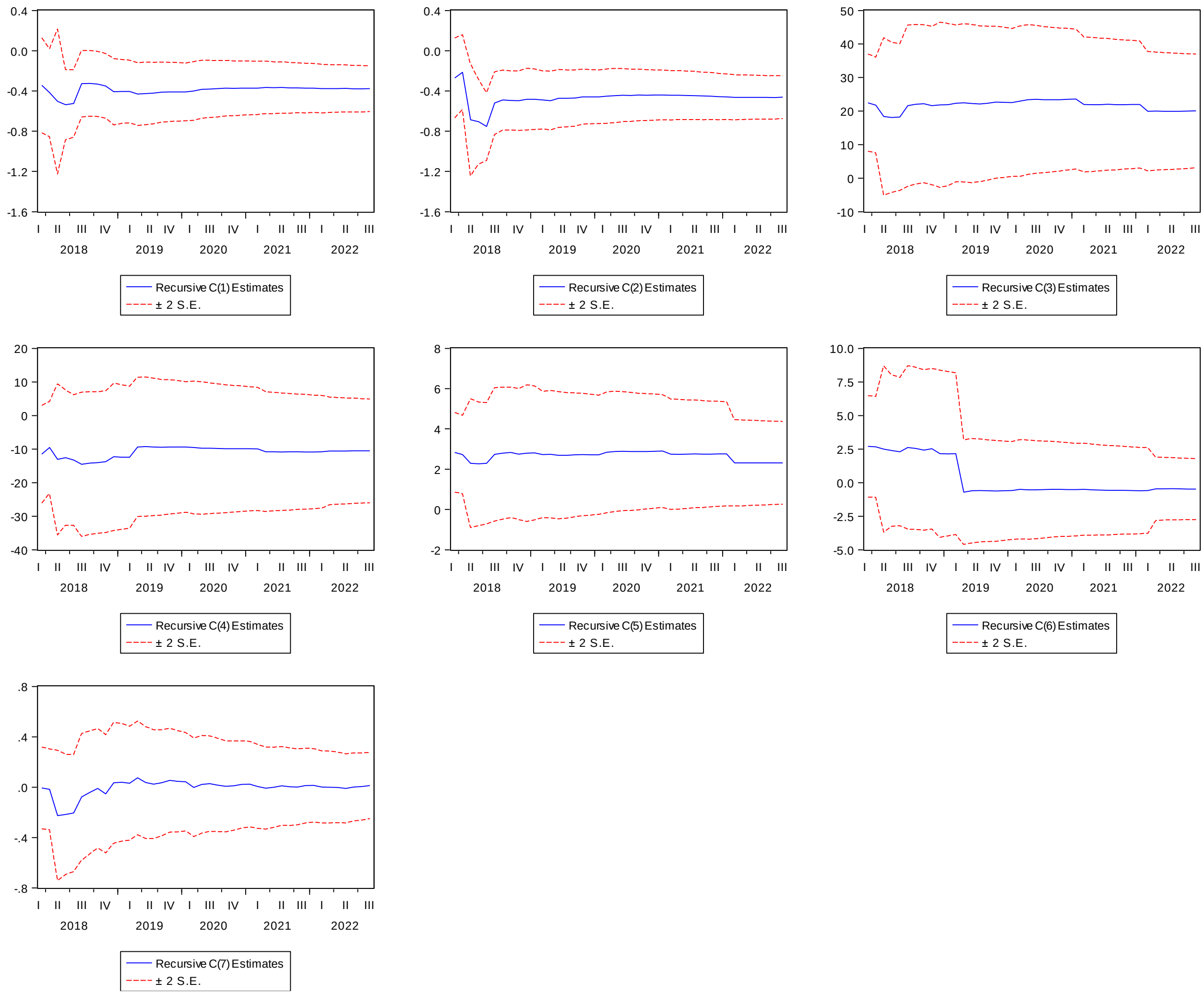
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	2.621857	(2, 60)	0.0810
Chi-square	5.243715	2	0.0727

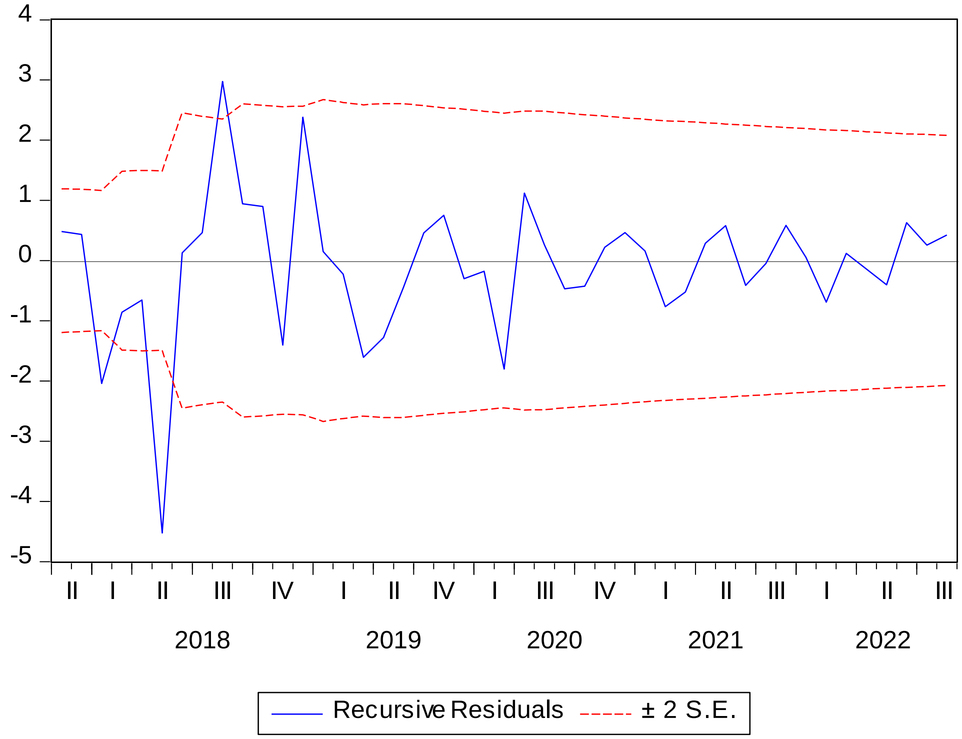
Null Hypothesis: C(5)= C(6)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(5)	2.312752	1.026466
C(6)	-0.486226	1.131909

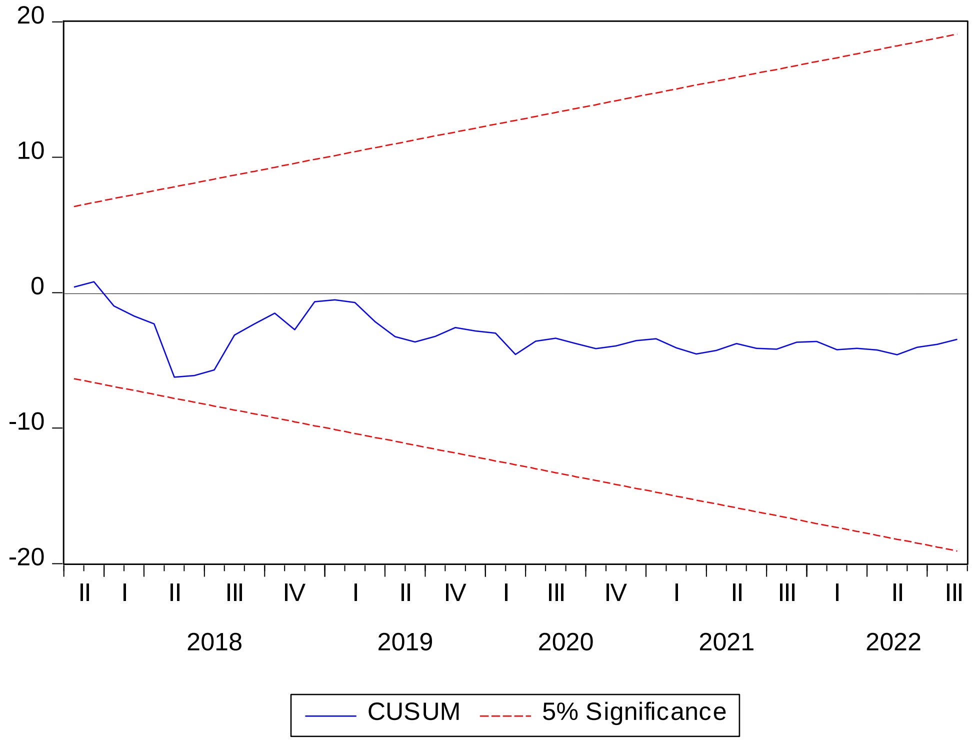
Recursive Estimates



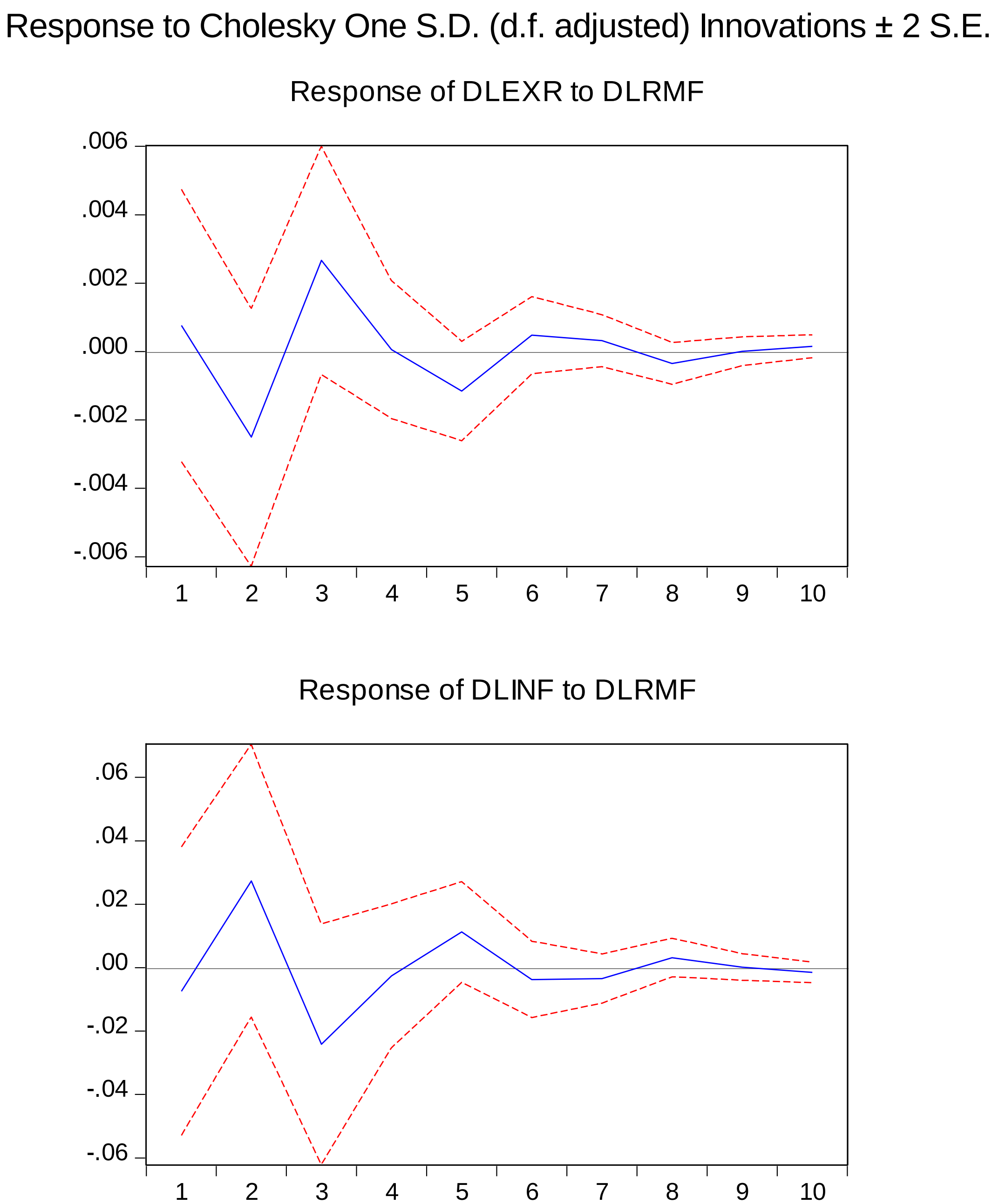
2. Recursive Residuals



CUSUM Test



Impulse responses of EXR and INF on RMF



Interpretation

Red line refers to 95%confidence interval, blue line refers impulse response. Blue line should always be within read line, one standard deviation shock given to RMF will give positive and afterwards at 2 period gives declines and fluctuate for short period. The shock to RMF has asymmetric response in short run and long run.

Results and discussions :

The outcomes support the research of (Warther, Journal of Financial Economics, 1995), who discovered a relationship between market returns and unforeseen flows. Furthermore, the outcomes corroborated the research conducted by (Jank S. , 2012)in the Journal of Banking & Finance, which showed that predictable variables are a more accurate predictor of changes in mutual fund flows than market returns. Compare the variations between the three theories (PT, FT, and IR theories) in (Ben-Rephael, 2011). They make it clear that FT theory and IR are unrelated. The primary difference between the PP and IR theories is that, whereas fund flows are distinct from fundamentals under the PP theory, they are determined by fundamentals under the IR theory. Nonetheless, a favorable correlation between simultaneous returns and flows are predicted by both models. While the PP theory predicts a negative relationship between lagged flows and returns because prices will reverse once the pressure goes away, the IR theory predicts no relationship between lagged flows and returns since information will be quickly absorbed by prices. Rather than providing definitive proof and focusing on the verification of the relationship between fund flows and aggregate market returns, the original study by (warther, journal of financial economics , 1995). The discovery and documentation of three ideas to explain the relationship between fund flow and market returns, thus, constitutes the study's contribution. Neither the PP theory nor the FT hypothesis is supported by the study's findings. (warther, Journal of financial economics, 1995) comes to the conclusion that while MF flows do affect the rise and fall of asset prices, this influence might be the result of flows chasing lagging market returns or a combination of flows and market returns responding to information. Because the study did not conduct an empirical test of the ideas, the results are therefore inconclusive and unsatisfactory. Additionally, conflicting results about MF flows and market returns have also been found in earlier research. Second, findings about macroeconomic variables, market returns, and MF flows have been contradictory. Several hypotheses from earlier research provide an explanation for the results of these investigations. Nevertheless, the results show contradictions and inconsistencies. Furthermore, while the empirical research focuses on the connection between MF flows and stock market returns, it doesn't seem that stock market volatility has also been examined and tested in conjunction with stock market returns and MF flows. Furthermore, not much has been done to address the concerns of MF flows' capacity for prediction. Lastly, research of this kind don't seem to have been conducted for developing nations, despite the significant role that MFs play in the economy. Future research may include the various MF.

Conclusion

The results of earlier research are explained by many theories. Nevertheless, the results show contradictions and inconsistencies. Furthermore, empirical research has concentrated on the association between MF flows and stock market returns, but it does not seem that these studies have also examined and evaluated the relationship between stock market volatility and stock market returns and MF flows. Furthermore, not much has been done to address the concerns of MF flows' capacity for prediction. Lastly, research of this kind don't seem to have been conducted for developing nations, despite the significant role that MFs play in the economy. Previous research has mostly concentrated on the factors that influence the performance and expansion of MFs, both domestically and globally. Nevertheless, not much research has been done to determine the macroeconomic factors that influence money market flows, how MFs relate to macroeconomic variables, and how the financial market and MF interact from a macroeconomic standpoint. MFs and Returns on Financial Markets Research on the factors influencing risk-adjusted performance of MFs at the micro firm/sector level has received a lot of attention (Sirri, 1998), A similar study that supports the notion of investor relations is carried out by (al. K. e., 2015), who discover that fund flows and stock market returns are moving in tandem. The study's findings corroborate those of who discovered a relationship between market returns and unexpected flows. Furthermore, the outcomes confirmed by (Fiza Qureshi, 2019) Conversely, other fund managers might use contrarian or negative feedback methods, which could lower market volatility by raising investment levels. This suggests that while lower market volatility raises fund flows in the financial market, higher market volatility lowers fund flows (Charles Cao, 2008). This study looks at the total effect of flows on changes in stock market returns, an important empirical subject since different strategies used by mutual funds (MFs) may be offsetting. Future research may include the many types of mutual funds (MFs) in addition to stock market returns and macroeconomic factors that have not been included in earlier studies. Second, examining various money market flows in terms of risk and stock market return. This work is extended by (Charles Cao, 2008) who determined the link between aggregate MF flows and return volatility in market and find negative association between flows and previous day volatility. Furthermore, there are existing evidence on the relationship among stock market returns, market volume and volatility, but the literature on MF flows and market volatility has received scant attention despite the importance of MFs in stock trading (Xinyu Cui, 2023).

References

(Sirri & Tufano. (1998).
Agustina. (2015).
ahmad. (2010).
Ahmad, M. I. (2010). Do Interest Rate, Exchange Rate effect Stock Returns? A Pakistani Perspective. *International Research Journal of Finance and Economics* .
al., B.-R. e. (2011).
al., K. e. (2015).
al., K. e. (2015).
albin, g. (1973).
Alexakis, C. N. (2005). The dynamics between stock returns and mutual.
ansari & zaman. (2021).
Aydogan, B. V. (2014). The interaction of mutual fund flows and stock returns: Evidence.
Ben-Rephael et al. (2011).
Ben-Rephael, A. K. (2011). The price pressure of aggregate mutual fund flows. Journal of.
biswas. (2022). Biswas, D. (2022). Investor Behavior Towards Mutual Fund. In: Sharma, N., Bhatavdekar, M. (eds) World of Business with Data and Analytics. Studies in Autonomic, Data-driven and Industrial Computing. Springer, Singapore. https://doi.org/10.1007/978-981-19-.
bohl et al. (2009).
Bohl, M. T. (2009). . Institutional investors and stock returns volatility:.
Braverman, O. K. (2005). The (bad?) timing of mutual fund investors. CEPR Discussion.
brown et al. (1996).
Cha, H.-J. &. (2010). Stock returns and aggregate mutual fund flows: A system approach. Applied.
Charles Cao, E. C. (2008). An empirical analysis of the dynamic relationship between mutual fund flow and market return volatility,.
Citraningtyas. (2016).
Dennis, P. J. (2002). . Who blinks in volatile markets, individuals or institutions? The Journal of.
dennis, s. e. (2009).
edelen. (1999).
edelen. (1999).
Edelen, R. M. (2001). Aggregate price effects of institutional trading: A study of mutual fund.
Fant, F. (1999).
Fiza Qureshi, A. M. (2019). Dynamics of mutual funds and stock markets in Asian developing economies,.
Geske and Roll (in Miha. (2016).
gruel, h. a. (n.d.).
Hakim, L. .. (2022).
Hakim, L. .. (2022). Journal of Economics, Management, Entrepreneur, and Business (JEMEB).
Harris & Gurel. (1986).
harris, L. &. (1986). Price and volume effects associated with changes in the s&p 500 list: New.
Harris, L. &. (1986). Price and volume effects associated with changes in the s&p 500 list: New.
indro. (2004).
jank. (2012).
Jank. (2012).
Jank. (2012).
jank. (2012). Mutual fund flows, expected returns, and the real economy. Journal of Banking & Finance,.
jank. (2012). Journal of Banking & Finance.
Jank, S. (2012). Mutual fund flows, expected returns, and the real economy. Journal of Banking & Finance,.
Jl. Jalur Sutera Barat Kav.21, A. S. (n.d.).
Kandel, a. W. (2011).
Kaul & Phillips. (2008).
Kaul, A. &. (2008). Kaul, A., & Phillips, B. (2008). Economic conditions, flight to quality and mutual fund flows. Unpublished.
Kim, C. a. (2005).

Kim, C. a. (2007).
lintner. (1996).
Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and.
m.,. (2023).
M., R. (2023). ANALYSIS ON MARKET TIMING AND STOCK SELECTION ABILITY OF INDIAN OPEN ENDED EQUITY MUTUAL FUND MANAGERS: A CASE STUDY ON SELECT OPEN ENDED MUTUAL FUNDS.
Mandakini Garg, D. S. (2020). Appraising Relationship Of Selected MacroEconomic Variables On Mutual Funds . *INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY*.
mishra. (2011). Mishra, P. K. (2011). Dynamics of the Relationship between Mutual Funds Investment Flow and Stock Market Returns in India. Vision, 15(1),.
mishra et al. (2009).
mishra et al. (2990).
Mosebach, M. &. (1999). Are the structural changes in mutual funds investing driving the us stock.
Nicolescu, L. (2020). PERFORMANCE RISK ANALYSIS ON MUTUAL FUNDS VERSUS STOCK EXCHANGES IN YOUNG FINANCIAL MARKETS. *Journal of International Studies*.
Panigrahi, C. A. (2020). Journal of Economic Policy & Research October 2019-March 2020, Vol.15 No.1, SSN 0975-8577.
Parwada, O. a. (2007).
Purwaningsih, e. a. (2015 and 2016).
raphael, b. (2012). Journal of Financial Economics.
Remolona, K. a. (1997).
sencicek. (2005).
Sencicek, M. (2005). Evaluating performance of institutional mutual funds using kernel density estimation. The.
Setyarini. (2015).
sharepe. (1964 1965). *lintner*.
sharpe. (1964).
Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. The Journal.
Siamat, 2. 8. (2005).
sias. (1996).
Sias, R. W. (1996). Volatility and the institutional investor. Financial Analysts Journal, 52(2), 13-20.
Sirri, E. R. (1998). Costly search and mutual fund flows. The Journal of Finance, 53(5), 1589-.
Stephan Jank. (2012). Mutual fund flows, expected returns, and the real economy,.
Sukirno. (2015).
tufano, s. a. (1998). Saleh Nawaz khan, & Amna Noor. (2020). The Flow - Performance Relationship: Evidence from Pakistani Mutual Funds. Journal of Accounting and Finance in Emerging Economies, 6(1), 145-154.
Wang, R. a. (2009).
Wang, R. a. (2009).
warther. (1995).
warther. (1995).
warther. (1995). Journal of financial economics.
warther. (1995). journal of financial economics .
wather. (1995).
Xinyu Cui, O. K. (2023). Xinyu Cui , Olga Kolokolova , George Jiaguo Wang.
Zhang, E. a. (1998).
Zheng, B. a. (2004).
Zheng, L. (1999). Is money smart? A study of mutual fund investors' fund selection ability. The Journal of.

, Reilly, 1977, Reilly and Wachowicz, 1979).

AFZA, T., & RAUF, A. L. I. (2009). Performance Evaluation of Pakistani Mutual Funds. *Pakistan Economic and Social Review*, *47*(2), 199–214. http://www.jstor.org/stable/25825352
Asaad, Z. A. (2021). Oil Price, Gold Price, Exchange Rate and Stock Market in Iraq. International Journal of Energy Economics and.
Asif Alia, M. K. (2021). Dynamic impact of Gold Prices, Oil Prices and Exchange Rate on Stock Market Performance: A Case of Pakistan's Stock Exchange . Review of Economics and Development Studies.

Caliceb, G. (2020). How does mutual fund flow respond to oil market volatility? The European Journal of Finance .

Fazlollahia, K. K. (2015). The Interactions among Gold, Oil, and Stock Market: Evidence from S&P500. Procedia Economics and Finance 25 (2015) 478 – 488.

Jain, S., Jindal, T., Sharma, A., Raipur, N., Raipur, N., & Raipur, N. (2023). *Study On Investment Analysis Of Individuals In Mutual Funds-An Empirical Study*. *10*(01).

Jaweed, S. (2019). Investigation of Dynamics of Macroeconomy and Commodity Mutual Funds: Empirical Evidence from India. Theoritical Economic letters.

Khan, Y., Hussain, A., & Hussain Shah, N. (2020). *Analysis of Pakistan ' S Mutual Fund Performance Evidence From Analysis of Pakistan ' S Mutual Fund Performance Evidence From Traditional & Modern Methods*. *43*(2), 296–311. https://doi.org/10.17051/ilkonline.2020.03.735553

Lee, C. L. E. E. (2019). *Ni Ve R Ay a Ve R Si of*. 2014–2016.

Mansor, F., & Bhatti, M. I. (2011). Risk and Return Analysis on Performance of the Islamic mutual funds : Evidence from Malaysia. *Global Economy and Finance Journal*, *4*(1), 19–31.

Nazir, M. S., & Nawaz, M. M. (2010). The determinants of mutual fund growth in Pakistan. *International Research Journal of Finance and Economics*, *54*(54), 75–84.

Negara, H. R. P., Syaharuddin, Kusuma, J. W., Saddam, Apriansyah, D., Hamidah, & Tamur, M. (2021). Computing the auto regressive distributed lag (ARDL) method in forecasting COVID-19 data: A case study of NTB Province until the end of 2020. *Journal of Physics: Conference Series*, *1882*(1). https://doi.org/10.1088/1742-6596/1882/1/012037

Qureshi, F. (2021). DO MUTUAL FUND FLOWS INFLUENCE STOCK MARKET VOLATILITY? FURTHER EVIDENCE FROM EMERGING MARKET. Romanian Journal of Economic Forecasting – XXIV (3) 2021 37 .

(Sirri & Tufano. (1998).

sharepe. (1964 1965). *lintner*.

sencicek. (2005).

mishra et al. (2009).

ansari & zaman. (2021).

m.,. (2023).

mishra et al. (2990).

Agustina. (2015).

ahmad. (2010).

Ahmad, M. I. (2010). Do Interest Rate, Exchange Rate effect Stock Returns? A Pakistani Perspective. *International Research Journal of Finance and Economics* .

al., B.-R. e. (2011).

al., K. e. (2015).

al., K. e. (2015).

albin, g. (1973).

Alexakis, C. N. (2005). The dynamics between stock returns and mutual.

Aydogan, B. V. (2014). The interaction of mutual fund flows and stock returns: Evidence.

Ben-Rephael et al. (2011).

Ben-Rephael, A. K. (2011). The price pressure of aggregate mutual fund flows. Journal of.

biswas. (2022). Biswas, D. (2022). Investor Behavior Towards Mutual Fund. In: Sharma, N., Bhatavdekar, M. (eds) World of Business with Data and Analytics. Studies in Autonomic, Data-driven and Industrial Computing. Springer, Singapore. https://doi.org/10.1007/978-981-19-.

bohl et al. (2009).

Bohl, M. T. (2009). . Institutional investors and stock returns volatility:.

Braverman, O. K. (2005). The (bad?) timing of mutual fund investors. CEPR Discussion.

brown et al. (1996).

Cha, H.-J. &. (2010). Stock returns and aggregate mutual fund flows: A system approach. Applied.

Charles Cao, E. C. (2008). An empirical analysis of the dynamic relationship between mutual fund flow and market return volatility,.

Citraningtyas. (2016).

Dennis, P. J. (2002). . Who blinks in volatile markets, individuals or institutions? The Journal of.

dennis, s. e. (2009).

edelen. (1999).

edelen. (1999).

Edelen, R. M. (2001). Aggregate price effects of institutional trading: A study of mutual fund.

Fant, F. (1999).

Fiza Qureshi, A. M. (2019). Dynamics of mutual funds and stock markets in Asian developing economies,.

Geske and Roll (in Miha. (2016).

gruel, h. a. (n.d.).

Hakim, L. .. (2022).

Hakim, L. .. (2022). Journal of Economics, Management, Entrepreneur, and Business (JEMEB).

Harris & Gurel. (1986).

harris, L. &. (1986). Price and volume effects associated with changes in the s&p 500 list: New.

Harris, L. &. (1986). Price and volume effects associated with changes in the s&p 500 list: New.

indro. (2004).

jank. (2012).

Jank. (2012).

Jank. (2012).

jank. (2012). Mutual fund flows, expected returns, and the real economy. Journal of Banking & Finance,.

jank. (2012). Journal of Banking & Finance.

Jank, S. (2012). Mutual fund flows, expected returns, and the real economy. Journal of Banking & Finance,.

Jl. Jalur Sutera Barat Kav.21, A. S. (n.d.).

Kandel, a. W. (2011).

Kaul & Phillips. (2008).

Kaul, A. &. (2008). Kaul, A., & Phillips, B. (2008). Economic conditions, flight to quality and mutual fund flows. Unpublished.

Kim, C. a. (2005).

Kim, C. a. (2007).

lintner. (1996).

Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and.

M., R. (2023). ANALYSIS ON MARKET TIMING AND STOCK SELECTION ABILITY OF INDIAN OPEN ENDED EQUITY MUTUAL FUND MANAGERS: A CASE STUDY ON SELECT OPEN ENDED MUTUAL FUNDS.

Mandakini Garg, D. S. (2020). Appraising Relationship Of Selected MacroEconomic Variables On Mutual Funds . *INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY*.

mishra. (2011). Mishra, P. K. (2011). Dynamics of the Relationship between Mutual Funds Investment Flow and Stock Market Returns in India. Vision, 15(1),.

Mosebach, M. &. (1999). Are the structural changes in mutual funds investing driving the us stock.

Nicolescu, L. (2020). PERFORMANCE RISK ANALYSIS ON MUTUAL FUNDS VERSUS STOCK EXCHANGES IN YOUNG FINANCIAL MARKETS. *Journal of International Studies*.

Panigrahi, C. A. (2020). Journal of Economic Policy & Research October 2019-March 2020, Vol.15 No.1, SSN 0975-8577.

Parwada, O. a. (2007).

Purwaningsih, e. a. (2015 and 2016).

raphael, b. (2012). Journal of Financial Economics.

Remolona, K. a. (1997).

Sencicek, M. (2005). Evaluating performance of institutional mutual funds using kernel density estimation. The.

Setyarini. (2015).

sharpe. (1964).

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. The Journal.

Siamat, 2. 8. (2005).

sias. (1996).

Sias, R. W. (1996). Volatility and the institutional investor. Financial Analysts Journal, 52(2), 13-20.

Sirri, E. R. (1998). Costly search and mutual fund flows. The Journal of Finance, 53(5), 1589-.

Stephan Jank. (2012). Mutual fund flows, expected returns, and the real economy,.

Sukirno. (2015).

tufano, s. a. (1998). Saleh Nawaz khan, & Amna Noor. (2020). The Flow - Performance Relationship: Evidence from Pakistani Mutual Funds. Journal of Accounting and

Finance in Emerging Economies, 6(1), 145-154.

Wang, R. a. (2009).

Wang, R. a. (2009).

warther. (1995).

warther. (1995).

warther. (1995). Journal of financial economics.

warther. (1995). journal of financial economics .

wather. (1995).

Xinyu Cui, O. K. (2023). Xinyu Cui , Olga Kolokolova , George Jiaguo Wang.

Zhang, E. a. (1998).

Zheng, B. a. (2004).

Zheng, L. (1999). Is money smart? A study of mutual fund investors' fund selection ability. The Journal of.