**An Internship Report on "Factors Influencing the Performance of Mutual Funds: Evidence from a developing economy- Bangladesh."**
**For The Degree of Master of Business Administration (MBA).**

## Supervised By:

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Id: 22317002

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Session: 2022-23

6th Batch

Department of Finance and Banking

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## Date of Submission: 26-05-2025

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**Department of Finance and Banking**

**Comilla University, Cumilla**

**Letter of Transmittal**

26-05-2025

To

Md. Al-Amin

Assistant Professor and Supervisor

Department of Finance and Banking

Comilla University, Cumilla.

Subject: Submission of an internship report on **“Factors Influencing the Performance of Mutual Funds: Evidence from a developing economy- Bangladesh.”**

Dear Sir,

This is my pleasure that I have completed my internship report and hereby ready to submit my report on “Factors Influencing the Performance of Mutual Funds: Evidence from a Developing Economy—Bangladesh.” as a requirement of MBA program. I have tried my best to give an overview of the impact of internal and external factor on the performance of Mutual Funds and also tried to make my analysis and report a successful one.

This report helps me tremendously to apply my theoretical experience and ideas into analysis of the topic mentioned which has sharpened my views, ideas and ability to do research further. In preparing this report I have followed the instructions of you.

I, sincerely, thank you for your careful guidance and cooperation and hope that you will appreciate my effort. I will be glad for your cordial approval of my submission.

Sincerely yours,

Soliman Bhuiyan

ID No: 22317002

Session: 2022-23 ($6^{th}$ Batch)

Department of Finance and Banking

Comilla University, Cumilla.

# Student Declaration

I am Soliman Bhuiyan, Student of Department of Finance and Banking. MBA 6th Batch bearing ID: 22317002 hereby declare that the internship report on **"Factors Influencing the Performance of Mutual Funds: Evidence from a developing economy- Bangladesh."** represent the result of my own works, pursued under the supervision of MD. Al-Amin, Assistant Professor of Department of Finance and Banking, Comilla University, Cumilla.

I, also declare that the report is prepared for academic purpose which is a part of MBA program and in this paper, I used the actual present scenario of the organization.

________________

Soliman Bhuiyan

ID No: 22317002

Session: 2022-23 (6th Batch)

Department of Finance and Banking

Comilla University, Cumilla.

# Certificate of Supervisor

This is to certify that Soliman Bhuiyan, a student of MBA program, Id:22317002, Reg: 22317002, has successfully completed his "Internship Program" and submitted report entitled **"Factors Influencing the Performance of Mutual Funds: Evidence from a developing economy-Bangladesh."**

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(Md. Al-Amin)

Assistant Professor

Department of Finance and Banking

Comilla University, Cumilla

# Acknowledgement

At first, I would like to express my gratitude to the Almighty Allah for making me able to complete this report within due time. I am deeply indebted to my supervisor, Md. Al-Amin, Assistant Professor, Department of Finance and Banking, Comilla University, for assigning me such a topic named **"Factors Influencing the Performance of Mutual Funds: Evidence from a developing economy- Bangladesh."** He allowed me to encroach upon his precious time from the very beginning of this work till the completion. His expert guidance, affectionate encouragement and critical suggestions provided me necessary insight into the research problem and paved the way for the meaningful ending of this report within due time.

I also express my warm gratitude and cordial thanks to Md Saidur Rahman, Assistant Senior Manager of Tax and VAT Consultancy Team of ACNABIN Chartered Accounts.

Finally, I would like to express my wholehearted thanks to all those people who have shared their views about my work, provided me with necessary information, criticized me and congratulated me. This report is not free from limitations. There might still be some minor mistakes such as typing errors despite my utmost care. I apologize for this.

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Ref- HRDD/Jnternship/Soliman/ID22317002/2025/3
22 May 2025

## TO WHOM IT MAY CONCERN

This is to certify that Soliman Bhuiyan, MBA Session 2022-23, ID: 22317002, Department: Finance and Banking, Comilla University, Cumilla has successfully completed three months internship program in ACNABIN to fulfill his requirement of Master of Business Administration (MBA) program. He is under our team supervision and explored the general functions of the audit and taxation.

During the period of his internship program in this office, he was very much sincere, dedicated and dutiful in his responsibilities. He maintained steaming enthusiasm all through. His diligence delighted us. This hand of experience will have ensured sweet fruition of his professional life.

We wish his every success in life.

Md. Abdus Samad
General Manager
Administration

# Table of Contents

## Executive Summary

This study assesses the key factors influencing closed-end mutual fund performance in Bangladesh, paying particular attention to the consequences of investing non listed securities. Although the goal of mutual funds is to provide small and risk-averse investors with professionally managed, diversified investment options. This study shows that not all of the investing techniques used by mutual funds accomplish this goal. This study investigates how macroeconomic and firm-specific factors interplay to affect mutual fund performance. The study's sample size is based on ten closed-end mutual funds held between 2013 and 2023. In order to draw conclusions, a sample of closed-end mutual fund lists was chosen for descriptive and causal-comparative research. The effects of firm-specific factors such as fund growth, non-listed securities investments, and the P/E ratio have been assessed. Economic growth and the GDP deflator are macroeconomic factors. The study's independent variables include fund growth, non-listed securities investments, the P/E ratio, economic growth, and the GDP deflator. The dependent variable is the mutual fund performance. Regression analysis in this study was conducted using the random effect model in STATA-15. This study demonstrates that the financial performance of mutual funds has been significantly boosted by both fund growth and economic growth. In Bangladesh, however, the financial performance of mutual funds is significantly impacted negatively by GDP Deflator, the P/E ratio, and investments in non-listed securities. Non-listed securities' detrimental influence is especially alarming. These investments, which frequently lack transparency and regulatory monitoring, put mutual funds at higher risk and undermine the very advantages they are meant to provide to novice or small-scale investors. This result calls into question the widely held belief that more risk in these products always translates into higher profits.

It is obvious that asset allocations strategies need to be reevaluated, especially with regard to non-listed securities, and that stricter screening and due diligence procedures need to be implemented. Investor protection and transparency could be improved by extending regulatory coverage and bolstering oversight of non-listed companies.

For investors, asset managers, and legislators navigating Bangladesh's changing mutual fund market, this report offers insightful information. It acts as a warning as well as a guide, pointing out areas that require strategic realignment in order to boost performance, rebuild confidence, and guarantee the mutual funds' long-term survival as inclusive investment vehicles.

# Chapter – 01

# Introduction

## Introduction

Mutual funds' primary purpose is to aggregate money from individuals and organizations to invest in stocks, bonds, and other assets across multiple industrial sectors and geographical areas. The fund management will invest the money in a variety of securities based on the objectives and needs of each client, as well as their chosen risk and return. The mutual funds were initially created in 1980 by the state-owned Investment Corporation of Bangladesh (ICB). It introduced eight close-end products and one unit fund until 2002. Then, following an Asian Development Bank instruction, it was required to establish three subsidiaries, including the asset management company, which was tasked with launching mutual funds in conformity with Securities and Exchange Commission (SEC) guidelines.

In general, most investors lack proper and academic information about how to invest their funds efficiently and build a suitable portfolio. They have inadequate knowledge of risk hedging approaches for diversifying risk without compromising yield and ensuring a higher return. On the other side, there are many little investors with a limited amount of funds. As a result, they are unable to apply risk hedging approaches to create an optimal portfolio. In most situations, they invest their funds in one or two-three areas. Mutual funds provide services to investors who have minimal knowledge of risk hedging techniques and have a little amount of money to invest. Experiential and skilled fund managers pool clients' cash in mutual funds, use best risk management procedures to limit hazards to a minimum, and design optimal portfolios to disperse risks and maximize returns.

Mutual funds are firms that aggregate money from various investors and use it to purchase securities such as stocks, bonds, and short-term debt (Islam & Dewri, 2016). Mutual funds are trust-based funds that raise cash by selling units to the general public for investing purposes. These funds allow investors to create a diverse range of investment choices. Investors who desire a stable dividend income but are afraid to take on more risk prefer mutual funds. Mutual fund schemes ensure capital protection, consistent income, capital growth, and maximum liquidity through their management competence. These factors cause Mutual Funds to expand rapidly over time. (Islam & Dewri, 2016).

## Research Question

1. What are the internal and external factors that affect the profitability of banks?
2. How does foreign business matrix impact the profitability of commercial banks?
3. What is the relation between asset quality and profitability of banks?
4. How credit risk affects the profitability of commercial banks/
5. What is the impact of broad money on bank profitability?

## Objective of the Study

### Broad Objective

The general objective of this study is to analyze "Factors Influencing the Performance of Mutual Funds: Evidence from a Developing Economy—Bangladesh"

### Specific Objective

1. To evaluate influence of fund growth on the financial performance of mutual funds.
2. To explore the relationship between macroeconomic factors and financial performance of mutual funds.
3. To study the impact of investment in non-listed securities on mutual fund performance.
4. To measure the effect of price earnings ratio on mutual fund performance

# Chapter – 02

# Literature Review

## Literature Review

Alagamy et al. (2025) found that fund age, type, size, expense ratio, and turnover ratio have a substantial impact on fund performance as measured by Sharpe and Treynor ratios. Fund age and size have a positive impact on the Treynor ratio, indicating that older and larger funds outperform in terms of systematic risk. Hong et al. (2025) examines the impact of FinTech platforms on financial intermediation in China, focusing on mutual fund distribution. The study shows that fund managers respond to this trend by taking on greater risk to improve their rankings and attract more investors. Paramita et al. (2025) show that Schroder is the top-performing fund, achieving the highest scores on key performance metrics, though it also carries the highest risk of loss under extreme conditions. In contrast, MNC ranks lowest across most performance indicators, reflecting weak returns and minimal risk. Alsubaiei et al. (2024) find that higher oil volatility significantly reduces fund performance and weakens fund managers' stock selection abilities. Study results suggest female managers underperform, but once fund-specific factors are considered, gender differences in excess returns are not statistically significant. The analysis also finds that managers with Ivy League graduate degrees or MBAs tend to achieve better performance (Csiky & Pichler, 2025).

Zhang et al. (2024) show that bank-affiliated managers show greater sensitivity to past fund performance when adjusting risk. Additionally, skilled bank-affiliated managers tend to increase portfolio risk to boost future fund performance. Khalid and Khan (2022) show that many top-performing funds consistently outperform market benchmarks, and this outperformance cannot be attributed to random chance or sampling variation. Shaekh et al. (2024) show that these fund managers possess genuine stock-picking skills rather than relying on luck for their success. Liu et al. (2023) find that politically connected funds make stock holding changes that predict abnormal returns around earnings announcements, suggesting enhanced stock-picking ability. Kalpana and Hema (2023) find that private sector mutual funds generally deliver better returns than public sector funds, making them more appealing to investors. The study also compares the risk levels to assess whether the differences in returns are justified. Reuter and Zitzewitz (2021) examines whether fund size impacts future returns by using a regression discontinuity approach based on changes in Morningstar ratings. It finds that higher ratings significantly increase fund size, but increased size has little to no effect on future returns.

Pástor and Vorsatz (2020) analyzes the performance and investor flows of U.S. actively managed equity mutual funds during the 2020 COVID-19 crisis. Contrary to expectations, most active funds underperformed passive benchmarks. However, funds with high sustainability and star ratings performed better. These findings indicate that even during a major crisis, investors view sustainability as essential rather than optional. According to the (Islam & Dewri, 2016) study, there is a significant relationship between fund performance and fund size, fund return, dividend payout, and P/E ratio. However, there is little correlation between fund age and NAV and fund performance. The relationship between NAV and security value in the fund is direct. The primary criterion for evaluating the performance of a mutual fund, which is typically based on risk return, is NAV (Panigrahi et al., 2019). Li et al. (2025) show that the fund's performance is positively connected to its centrality in the shareholder network. This performance-enhancing effect can be linked to informational channels, which allow funds in more central locations to potentially increase their performance. Rao et al. (2020) analyzes the performance persistence of 714 Chinese mutual funds from 2004 to 2015. The study finds no significant performance persistence among Chinese mutual funds—past winners or losers do not continue their performance in the following year, indicating that past returns do not predict future returns.

According to Kariuki (2014), Kenya's mutual fund's NAV was impacted by 5 macroeconomic factors, including the money supply, interest rate, inflation rate, GDP, and exchange rate. Nearly 70.9% of Kenya's mutual fund performance can be attributed to these factors. The Kenyan mutual fund is positively impacted by the money supply, interest rates, inflation rates, and GDP, whereas the exchange rate has a negative impact.

Nguyen and Nguyen (2019) find a positive association between macroeconomics and mutual fund performance. Another study conducted by Aziz (2019) revealed that mutual fund returns from 2006 to 2016 were positive but not greater than market returns, implying that they earned some returns but not more than the market. Ahmad et al. (2019) analyzed that open-ended mutual funds perform better than closed-ended funds and that their average returns are higher, but they did not evaluate risk adjusted returns.

Nguyen and Nguyen (2019) have found a positive correlation between mutual fund performance and macroeconomics. Additionally, there is a favorable relationship between mutual fund performance and factors related to country-level governance, including political stability, economic growth, financial development, and the effectiveness of laws. In Vietnam, where passive funds perform better than active funds, board size has little impact on mutual fund performance, while the impact of fund-level characteristics varies. According to the literature Anwar and Arif (2016), mutual fund performance in Bangladesh typically underperforms market returns when measured by NAV. The majority of growth-oriented funds have performed poorly and provided few advantages for diversification. In comparison to the market as a whole, the mutual fund industry is still very tiny. The study Chowdhury et al. (2018) looked at how mutual funds performed using both market price and NAV over five years. Returns were mostly negative from 2012 to 2014 but improved in 2015 and 2016. SEBL1STMF performed the best overall. More funds showed good results when using NAV compared to market price. Cici et al. (2022) found that active investment-grade corporate bond mutual funds have demonstrated greater popularity and a stronger ability to generate alpha compared to active equity funds.

Md Qamruzzaman ACMA (2014) evaluates the performance of 32 growth-oriented mutual funds using monthly returns and risk-adjusted measures. The findings show that most funds had positive returns, and an upward trend compared to the market. However, performance varied due to inconsistencies between mutual fund returns and negative market returns.

# Chapter – 03

# Company Profile

## Company Profile

### Overview of ACNABIN Chartered Accountants

ACNABIN is one of the largest accounting firms, representing Baker Tilly International as an independent network member firm in Bangladesh providing assurance, tax and business consulting service ensuring high quality. Starting its journey way back in 1985, the firm has been one of the most efficient and trusted firms to the business communities and related stakeholders. At ACNABIN, we measure success by reference to value created as desired by our clients and stakeholders. To serve our valued clientele, about 500 professionals of varied experience and expertise have been relentlessly working everyday across the markets.

ACNABIN, a network firm of Baker Tilly International is committed to going beyond service into value addition in the truest sense of the word. To understand not just what our customers want, but what their business needs; to meet not just immediate requirements but provide long-term solutions; to being not just reactive to client needs but being proactive to solve their future challenges.

## Nomenclature

A **A**BM Azizuddin

C Anwaruddin **C**howdhury

N ASM **N**ayeem

A HM **A**bul Kalam Azad

B ATMA **B**ari

I **I**ftekhar Hossain

N Mohammad Nurun **N**abi

ACNABIN was formed in February 1985, with a mission to continually add value by helping clients succeed. The then largest partnership firm was founded with a vision to build an institution which would foster an environment for leadership, continuous growth, learning, and collaborations. At present, ACNABIN has eight partners whose expertise in the field of auditing, accounting, reviewing, business consulting, business process outsourcing, financial and legal due diligence services, technology solutions, training and taxation has established the firm as a multidisciplinary organization. The partners have many years of experience of working both at home and abroad and with international consultants and organizations operating locally and globally. ACNABIN is regarded as one of the top firms of chartered accountants in the country context having significant exposure in the market.

Since the firm's inception, ACNABIN has been providing market survey, management, review and consultancy services to clients actively involved in industry, trade, finance, microfinance, education, health, social services, and agriculture in the private, public and NGO sectors throughout Bangladesh, as well as to various UN agencies and other development partners.

The global affiliations of ACNABIN have enabled the firm and its people to obtain training overseas and up-to-date information and knowledge in the profession. Currently, ACNABIN is an independent member firm of Baker Tilly International. ACNABIN was associated with Arthur Andersen, LLP the then global leader in the profession till the closure of the accounting giant in 2002.

## ACNABIN in the Audit and Assurance Sector of Bangladesh

### United by core values

Our culture is driven by the Baker Tilly Internal core values:

- To lead by example
- To deliver quality services with integrity
- To communicate openly, to act ethically
- And to foster a community built around civic responsibilities and teamwork.

### Vision

We go beyond the traditional auditor and client relationship by becoming your Trusted Business Advisor.

### Mission.

We adhere to the strictest principles of client confidentiality. The sensitive and competitive nature of proprietary information and the maintenance of trust-demands it. We have built our success on such principles. We do our utmost to earn and keep client trust.

## Strategic Intent

We are passionate about helping our clients, while at the same time developing our people's potential.

While securing safe & trusted position in the market for financial institutions, telecommunications, foreign branch & liaison offices and NGOs/NPOs, we still see wider space for us to get involved in other sectors in the country and in the region.

- **Strategic Intent:** We want to become trusted leader in the market ensuring highest level of professional ethics and competencies.
- **Partner-Driven Approach:** We cater to our clients with personalized attention and meet their business challenges with ease and finesse without compromising our independence wherever required.
- **Extraordinary Client Service:** Our client-centric approach is built around highly customized services through continuous innovation to deliver value to our clients. We provide support to our customers that they can rely on, encompassing all their requirements to the best of our ability. We believe in 'total client satisfaction'.
- **Vibrant & Long-lasting Client Relationships:** Our client relationships are more than just business partnerships. We endeavor to understand the person as well as their business and build a vibrant and long-lasting relationship.

# Chapter – 04

# Theoretical Description

## Theoretical Descriptions

### Fund Growth and Performance

According to Chen et al. (2004) economies of scale provide benefits such as lower expenditure ratios for large volumes of resources. Opponents argue that trading costs related to liquidity or price impact cause a relatively large asset base to undermine fund performance (Lowenstein, 2013). Furthermore, huge funds can be invested in garbage portfolios, lowering fund performance. A fund can grow to the point where size interferes with performance. It is the most effective approach to identify whether a fund is too large for a specific investment strategy. Large funds are invested in a diversified manner, reducing total portfolio risk and resulting in superior financial performance over time. Therefore, the first hypothesis we are going to test:

**$H_0$1:** It is assumed that there is no significant relationship between fund growth and mutual fund performance.

### Investment in Non-Listed Securities and Mutual Fund Performance

Investments in securities which do not list on the Stock Exchange are referred to as investments in assets that have no public market value. Mutual fund profitability relates to the Fund's ability to achieve an attractive return for its investors. This research shows that there no correlation between investments on unlisted securities and the profitability of mutual funds.

**$H_0$2:** It is assumed that there is no significant relationship between investment in non-listed securities and mutual fund performance.

### P/E Ratio and Mutual Fund Performance

The difference between the price earnings per share of identified diversified equity funds is significant Mutual funds are investment trusts that combine the savings of several investors who share a common objective (Parmar, 2014). The performance assessment study for the Mutual Fund is based on a price earnings ratio which illustrates how much variation of market prices between units and their actual value.

**$H_0$3:** It is assumed that there is no significant relationship between P/E ratio and mutual fund performance.

## Economic Growth and Mutual Fund Performance

If interest rates rise by a particular amount in the future, mutual fund performance will suffer greatly (Panigrahi et al., 2019). An increase in the production of economic goods and services over a given time period relative to a prior period is known as economic growth. Simply said, economic growth is the expansion of an economy's total output, which typically shows up as an increase in national revenue. There is no correlation between mutual fund profitability and economic growth.
**$H_0$4:** It is assumed that there is no significant relationship between economic growth and mutual fund performance.

## GDP Deflator and Mutual Fund Performance

The release of macroeconomic data, particularly inflation statistics, has a significant impact on the movement of the stock and bond markets, which in turn affects how well mutual funds perform (Endri, 2021). Inflation is the total rise in the cost of a country's goods and services over time. Over time, it reduces a currency's purchasing power. The equity mutual fund has shown to be an important component of the portfolio, providing returns that above inflation.

**$H_0$5:** It is assumed that there is no significant relationship between inflation and mutual fund performance.

**Table 1.** Variables used in the empirical analysis

| Serial No. | Variable Name | Variable Definition | Sources |
|---|---|---|---|
| **Performance Measure (Dependent Variables)** | | | |
| 1 | EPU | Earnings Per Unit (EPU) in a mutual fund is the net profit attributable to each outstanding unit of the fund over a specific period, calculated by dividing the fund's total earnings by the number of units outstanding. | (Nguyen & Nguyen, 2019) |
| 2 | Fund Growth | Fund growth refers to the rise in the fund's total assets over time, which is driven by capital appreciation, reinvested profits (such as dividends and interest), and net investor contributions. | (Shaekh et al., 2024) |
| 3 | Investment in non-listed Securities | Investment in non-listed Securities means investing the funds in non-listed securities which are not listed under the Bangladesh Securities Exchange Commission. | (ACMA, 2014) |
| **Determinants (Independent Variables)** | | | |
| 4 | Economic Growth | Economic growth is the increase in the inflation-adjusted market value of goods and services produced by an economy over time, typically measured by the rise in real Gross Domestic Product (GDP). | (Panigrahi et al., 2019) |
| 5 | GDP Deflator | The GDP deflator is a price index that measures the change in prices of all final goods and services produced within an economy, reflecting inflation or deflation over time. It is calculated as the ratio of nominal GDP to real GDP multiplied by 100 | (Kariuki, 2014) |

# Chapter – 05

# Methodology

## Methodology

### Research Type

The study is conducted based on secondary data and panel data analysis which consisted of time series and cross sections. The data for firm specific variables is collected from the audited financial statement of closed-end mutual fund of Bangladesh and data for macro-economic variable is collected from World Bank database. The sample size of this research is ten closed-end mutual funds listed in BSEC from 2013 to 2023. To understand different variables characteristics, we have used descriptive statistics. To determine the most appropriate method between fixed and random effect model, we have conducted hausman test where the null hypothesis has been accepted at 5% level. So, fixed effect model has been chosen for conducting regression.

We use linear regression model to determine the effects of independent variables like fund growth, Amount of asset allocation (investment) in non-listed securities, P/E ratio on dependent variable like mutual fund performance.

### Sources of Secondary data

❖ Annual Reports of the Mutual Funds (2013-2023).

❖ Website of World Bank

### Analysis in Stata

The following techniques have been used for analyzing the data

- Regression analysis.
- Descriptive statistics
- Autocorrelation analysis
- Multi-collinearity test
- Heteroskedasticity test
- Variance Inflation Factor Test (VIF)
- Hausman Test

**Economic Model**

$MFPB = \alpha + \beta_1 FG + \beta_2 InvNS + \beta_3 P/E + \beta_4 EcoG + \beta_5 GdpD + \varepsilon$

Where;

MFPB = Mutual Fund Performance in Bangladesh

FG = Fund Growth

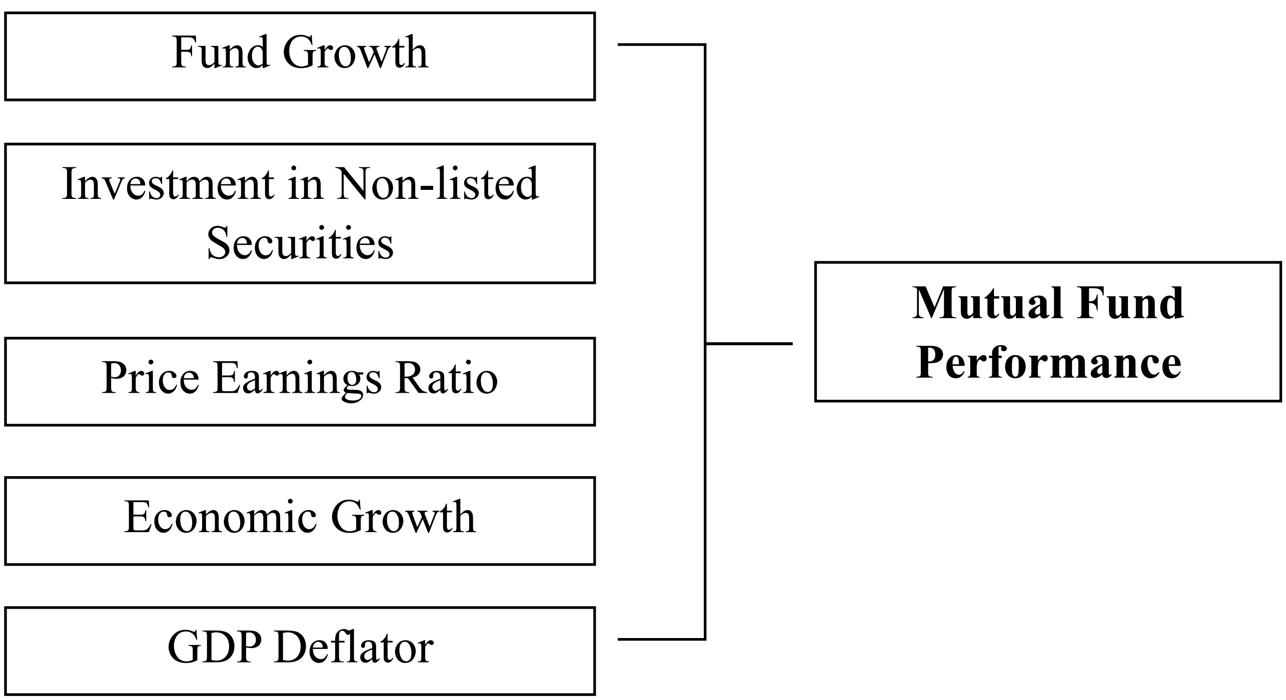
InvNS = Investment in Non-listed securities (Amount)

P/E = Price Earnings Ratio

EcoG = Economic Growth

GdpD = GDP Deflator

**Conceptual Framework**



# Chapter – 06

# Analysis and Findings

## Data Analysis and Discussion

### Descriptive Statistics

**Table-2: Descriptive Statistics**

| Variables | Obs | Mean | Std. Dev | Median | Min. | Max. | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|
| EPU (Amount) | 110 | 0.64 | 0.90 | 0.72 | -1.80 | 2.61 | -0.53 | 3.88 |
| Fund Growth (%) | 110 | 3.70 | 11.86 | 3.78 | -18.77 | 33.68 | 0.52 | 3.03 |
| Investment in Non-listed securities (Amount) | 110 | 640 | 410.51 | 563.48 | 176.8 | 1535.49 | 0.97 | 3.03 |
| Price Earnings Ratio | 110 | 14.22 | 11.21 | 12.73 | -5.06 | 36.16 | .44 | 2.93 |
| Economic Growth | 110 | 6.45 | 1.14 | 6.59 | 3.44 | 7.88 | -1.50 | 4.97 |
| GDP Deflator | 110 | 5.46 | 1.19 | 5.67 | 3.84 | 7.17 | .045 | 1.73 |

Table 1 displays descriptive statistics for the analyzed variable, using data from 10 closed-end mutual fund in Bangladesh from 2013-2023. The mean, standard deviation, median, minimum, maximum, skewness, and kurtosis are displayed for all variables utilized in this study.

The table above shows that the EPU ranges from -1.8 to 2.61, the mean EPU value is 0.64, respectively, with standard deviations of 0.90. Fund Growth ranges between -18.77 and 33.68, with a mean of 3.70 and a standard deviation of 11.86. Investment in non-listed securities (Amount) ranges from 176.8 to 1535.49, with a mean of 640 and a standard of 410.51. The P/E ratio runs between -5.06 and 36.16, with a mean of 14.22 and a standard deviation of 11.21. Economic growth varies from 3.44 to 7.88 percent, with a mean of 6.45 and a standard deviation of 1.14. GDP deflator values vary from 3.84 to 7.17, with an average of 5.46 and a standard deviation of 1.19. Investment in non-listed securities (amount) has the highest standard deviation.

## Correlation matrix

| Table 3: Correlation Analysis | | | | | | |
|---|---|---|---|---|---|---|
| Variables | FG | InvNS | P/E | EcoG | GdpD | VIF Factor |
| FG | 1 | | | | | 2.44 |
| InvNS | 0.0014 | 1 | | | | 1.18 |
| P/E | -0.1013 | -0.0396 | 1 | | | 4.28 |
| EcoG | 0.4690 | -0.0111 | 0.6331 | 1 | | 5.37 |
| GdpD | -0.0295 | -0.3382 | 0.0992 | 0.1008 | 1 | 1.23 |

Statistically Significant $p<0.05$, and $p<0.01$; t statistics are enclosed in parentheses.

Notes: The table displays Pearson's pairwise correlation coefficients for the variables under consideration. Data from ten mutual funds in Bangladesh between 2013 and 2023 are used. Furthermore, the variance inflation factor (VIF) mean is 2.90.

The following table illustrates that the correlation among the independent variables is not significantly higher, with the exception of the P/E ratio and EcoG, which are 0.6331. The vif test results indicate that just one variable, EcoG, is more than 5. The average variance inflation factor is 2.90, indicating that there is a low risk of multicollinearity among the variables, while VIF values more than 10 suggest a multicollinearity concern. (Kutner et al., 2004)

## Heteroscedasticity

| Table 4: Heteroscedasticity Test | | | |
|---|---|---|---|
| Variable | chi2 | df | p |
| FG | 0.07 | 1 | 1.0000 # |
| InvNS | 5.64 | 1 | 0.0879 # |
| P/E | .12 | 1 | 1.0000 # |
| EcoG | 5.82 | 1 | 0.0791 # |
| GdpD | .02 | 1 | 1.0000 # |
| simultaneous | 8.74 | 5 | 0.1199 # |

# Bonferroni-adjusted p-values

The Breusch-Pagan/Cook-Weisberg test was used to determine whether heteroscedasticity existed in the regression model. This test's null hypothesis is that the error variance is constant (homoscedasticity). The test was performed separately on each independent variable and concurrently on all variables.

Individual test findings, corrected for Bonferroni correction, show that no variables have statistically significant heteroscedasticity at the 5% level. InvNS and GdpD had the greatest chi-square values ($\chi^2 = 5.64$, $p = 0.0879$) and $\chi^2 = 5.82$, $p = 0.0791$, respectively. These p-values remained above the customary threshold of 0.05 following normalization. The simultaneous test, which looked at the combined effect of all factors, produced a chi-square statistic of 8.74 with 5 degrees of freedom and a p-value of 0.1199.

This finding adds to the conclusion that there is insufficient evidence to reject the null hypothesis of homoskedasticity.

As a result, the assumption of constant variance in the error terms appears to hold for this model, implying that heteroskedasticity is not an issue in this context.

**Model Specification Test (Fixed vs. Random Effects)**

**Table 5: Hausman Test for Model Specification**

| Variable | Fixed Effects Coeff. (b) | Random Effects Coeff. (B) | Difference (b–B) | Std. Error |
|---|---|---|---|---|
| Fund Growth | 0.0449 | 0.0451 | -0.0005 | 0.0007 |
| Investment in Non-Listed Securities | -0.0006 | -0.0004 | -0.0002 | 0.0009 |
| P/E Ratio | -0.0206 | -0.0200 | -0.0006 | 0.0016 |
| Economic Growth | 0.4713 | 0.4591 | 0.0122 | 0.0111 |
| GDP Deflator | -0.0201 | -0.0176 | -0.0024 | 0.0009 |
| Test Statistic | | Value | | |
| $\chi^2$ (df = 4) | | 12.11 | | |
| p-value | | 0.0166 | | |

| Note: The Hausman test evaluates whether the difference in coefficients between fixed and random effects models is systematic. A significant result ($p < 0.05$) indicates the fixed effects model is preferred due to consistent estimation. |
|---|

The Hausman specification test was used to find the most acceptable estimating technique for fixed effects and random effects models. The null hypothesis ($H_0$) indicates that the difference in coefficients between the two models is not systematic. This implies that the random effects estimator is consistent and preferable.

The test resulted in a chi-square statistic of 12.11 with 4 degrees of freedom and a p-value of 0.0166. Because the p-value is smaller than the standard 0.05 threshold, we reject the null hypothesis, suggesting that the coefficient differences are statistically significant. This finding suggests that the fixed effects model is better suited to the data, as it provides consistent and accurate estimates while accounting for unobserved heterogeneity across entities.

## Regression Analysis

**Table 6: Regression Analysis**

| Variable | Coefficient | Robust Std. Error | t-Statistic | P-value | 95% Confidence Interval |
|---|---|---|---|---|---|
| Fund Growth | 0.0449 | 0.0044 | 10.16 | 0.000 | [0.0349, 0.0549] |
| Investment in Non-listed Securities | -0.0006 | 0.0002 | -3.47 | 0.007 | [-0.0009, -0.0002] |
| P/E | -0.0206 | 0.0060 | -3.45 | 0.007 | [-0.0341, -0.0070] |
| Economic Growth | 0.4713 | 0.0603 | 7.82 | 0.000 | [0.3351, 0.6077] |
| GDP Deflator | -0.0201 | 0.0042 | -4.79 | 0.001 | [-0.0296, -0.0106] |
| Constant | -1.7477 | 0.2707 | -6.46 | 0.000 | [-2.3601, -1.1354] |
| R-squared (within): 0.9101 | | | | | |
| R-squared (between): 0.0525 | | | | | |
| R-squared (overall): 0.8844 | | | | | |
| F-statistic (5, 9): 335.03 | | | | | |
| Prob > F: 0.000 | | | | | |

Table  demonstrated the results of the fixed effects regression model, which was determined based on the Hausman test, which indicated systematic differences between fixed and random effects estimates ($p = 0.0166$). The model explains a large fraction of within-group variance in EPU ($R^2 = 0.9101$), with all explanatory factors statistically significant at 1%. FundGrowth and GDPgrowth have positive and significant impacts on Mutual Fund Performance, but InvNS (Investment in Non-listed Securities), P/E ratio, and GdpD (GDP Deflator) have significant negative effect. The results are robust to standard errors clustered at the fund level (mf_id), confirming the reliability of the estimates. Overall, the findings underscore the importance of both economic and firm-level factors in determining EPU.

# Chapter – 07

# Conclusion

## Conclusion

To the best of our knowledge, we are the first to find strong evidence that evaluate the factor influencing the performance of mutual funds. We then move on to consider various explanations for why this might be the case. The factors included fund growth, investment in non-listed securities, P/E ratio, economic growth and GDP deflator. The results show that fund growth, and economic growth is positively associated with mutual fund performance. Furthermore, a negative significant effect presence on investment in securities of non-listed play crucial role to determine the fund profitability. However, the correlation between fund performance and investment in non-listed securities and inflation is negative, indicating that risky investment of mutual funds is diminishing performance instead of increasing profitability.

People choose to invest in mutual funds since they know little about risk hedging strategies. Mutual funds allow these investors to invest their funds and implement proper risk-management strategies to achieve long-term financial returns. However, this study shows that mutual fund managers cannot efficiently choose shares from non-listed businesses. As a result, mutual fund profitability is decreasing over time.

### Policy Recommendations & Implications:

A comprehensive market evaluation that has a substantial impact on return is recommended for investors. This study explores the factor affecting the fund of mutual fund performance. It suggests the mutual fund managers to be more conscious about selecting the securities of non-listed companies. As non-listed companies are not regulated like the listed companies of BSEC, they should ensure surveillance operations on the activities of non-listed companies. They can track the past history of performance of those non-listed companies before investing their funds. They use bank information for investigation and credit rating agency also. They can communicate with the various stakeholder of those companies for analyzing the financial position and performance. This evidence advises that the government and other regulatory bodies like BB, BSEC should take proper steps for bringing those non-listed companies under a regulatory framework. This study can serve as a guide for future research improvements.

### Limitations and Avenues for Future Research

This research is based on quantitative factor only. To conducting this research, we have used secondary data. For this reason, there may be a probability of biasedness.

It strongly encouraged that further studies be done on qualitive factors, behavioral determinants, efficient market hypothesis, the efficiency of fund managers, the quality of risk hedging tools and the impact of equities and investment diversity on mutual fund profitability.

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