Assessing the Performance Dynamics of Gold Exchange Traded Fund in India: A Comprehensive Analysis

A Dissertation for

MGF-651 & Internship Report

Credits: 16

Submitted in partial fulfilment of Master's Degree

(MBA) in Financial Services

By

SHASHANK KRISHNANATH VERENKAR

Seat no: 22P0300027

ABC ID: 988-458-490-934

PRN: 201905302

Under the Supervision of

Dr. NARAYAN PARAB

Goa Business School

MBA in Financial Services

GOA UNIVERSITY
GOA BUSINESS SCHOOL

Date: 29/04/ 2024

Examined by:

Seal of the School

DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled, "Assessing the Performance Dynamics of Gold Exchange Traded Fund in India: A Comprehensive Analysis" is based on the results of investigations carried out by me in the (MBA) in Financial Services at the Goa Business School, Goa University under the Supervision of Dr Narayan Parab and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities / College will be not be responsible for the correctness of observations / experimental or other findings given the dissertation.

I hereby authorize the University/college authorities to upload this dissertation on the dissertation repository or anywhere else as the UGC regulations demand and make it available to any one as needed.

Shashank Krishnanath Verenkar

Seat no: 27

Date: 29/04/2024

Place: Goa University

COMPLETION CERTIFICATE

This is to certify that the dissertation report "Assessing the Performance Dynamics of Gold Exchange Traded Fund Companies in India: A Comprehensive Analysis" is a bonafide work carried out by Mr Shashank Krishnanath Verenkar under my supervision in partial fulfilment of the requirements for the award of the degree of Masters in Business Administration in the Discipline Financial Services at the Goa Business School, Goa University.

DR. NARAYAN PARAB

Assistant Professor

Goa Business School

Goa University

Date: 29/04/2024

Signature of Dean of the School/HoD

Date: 29/04/2024

Place: Goa University/Goa Business School

Dept School/Dept Stamp

COMPLETION CERTIFICATE

Muthoot Finance

Great Place To Work Certified

Date: 15-04-2024

Internship Completion Certificate

We are glad to certify that Mr./Ms. **Shashank Krishnanath Verenkar** has completed 3 months **"PATASHALLA"** Internship Program sponsored by **The Muthoot Group**.

The duration of the internship program was from **15-02-2024 to 12-04-2024 i**n the location mentioned.

Branch: MALBHAT - AQUEM ROAD - GOA
Region: GOA

During the Internship, he/she was trained under various sub-functions of the organization, and we found him/her sincere and result oriented.

We acknowledge the effort and wish him/her all the best for future endeavours.

Yours Faithfully
For Muthoot Finance Limited

General Manager – HRD

MUTHOOT FINANCE LTD.

CONTENT TABLE

1. Company Profile

Source: https://logowik.com/muthoot-finance-logo-vector-svg-pdf-ai-eps-cdr-free-download-18888.html

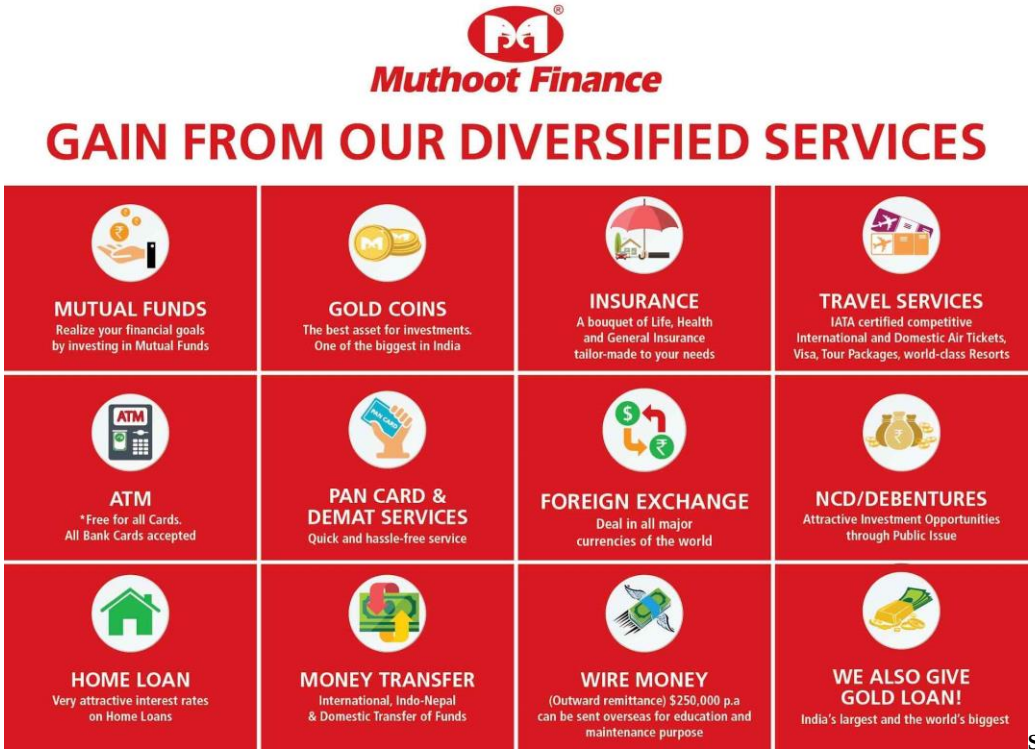
1.1 Introduction

Muthoot Finance Limited, located in Kochi, Kerala, is a top non-banking financial company (NBFC) that specialises in gold loans. Shri M. George Muthoot founded the company in 1939, and it has since developed from humble beginnings to become a reputable name in the financial services sector with a widespread presence throughout India. Muthoot Finance is committed to offering individuals and organisations with simple, convenient, and dependable financial solutions that enable them to fulfil their objectives and dreams. Muthoot Finance's success is driven by its persistent dedication to customer-centricity and accessibility. With a large network of branches strategically positioned in urban, semi-urban, and rural locations, the organisation ensures that its services are available to people from all walks of life. This pervasive presence, along with a powerful digital infrastructure, enables Muthoot Finance to serve millions of consumers efficiently and agilely. Over the years, the company has gained the faith and confidence of its customers, stakeholders, and the larger community via ethical

business practices and consistent adherence to regulatory standards. As an intern, they gave me unwavering support and were very patient with me as I learned the processes. In essence, Muthoot Finance embodies the concept of financial inclusion and empowerment, enabling people to realise their full potential and follow their dreams with confidence. Muthoot Finance remains committed to enriching lives and creating long-term value for all stakeholders as it explores new frontiers and innovates in the ever-changing financial landscape.

1.2 Business Operations

Muthoot Finance mostly provides gold loans, which allow consumers to obtain fast funds by pledging gold jewellery or coins as security. The organisation offers hassle-free and speedy loan disbursement processes, making it a popular choice for people in need of emergency financial aid. Muthoot Finance provides a variety of financial services, including gold loans, money transfers, foreign exchange, insurance, and wealth management. Muthoot Finance Limited operates at the convergence of financial services and social empowerment, providing a varied range of products and solutions to address the changing demands of its consumers. At the heart of its operations is a genuine commitment to making financial services accessible, transparent, and customer-centric to people across India. The following image gives a summary of Muthoot Finance's primary business operations:



Source: https://www.justdial.com/Rayagada/Muthoot-Finance-Ltd-Gautam-Nagar/9999P6856-6856-180309093909-Q2N4_BZDET

1.) Gold Loans

Muthoot Finance is well-known for its skill in gold-based loans, which is a core part of its business.

Individuals can get immediate loans by putting gold jewellery or coins as security, with loan amounts suited to their personal needs.

The company's simplified loan disbursement process assures speedy access to funds, making it a top alternative for those who require instant financial aid.

2.) Money Transfer

Muthoot Finance offers domestic and international money transfer services, allowing consumers to send and receive funds securely and easily.

The organisation ensures speedy and hassle-free money transfer transactions through partnerships with top remittance companies and powerful technology platforms.

3.) Foreign Exchange

Muthoot Finance, with its expertise in currency exchange services, provides foreign exchange solutions to individuals travelling overseas for vacation, business, or education.

Customers can convert currencies at competitive rates while ensuring transaction dependability and transparency.

4.) Insurance

Muthoot Finance recognises the need of financial protection and offers insurance options to protect individuals and their assets from unanticipated hazards.

These options include life insurance, health insurance, and general insurance plans, all of which are intended to provide consumers with comprehensive coverage and peace of mind.

5.) Wealth Management

Muthoot Finance goes beyond standard lending and insurance to offer wealth management solutions.

The organisation helps individuals grow and preserve wealth over time by providing personalised advisory services, investment products, and financial planning tools.

6.) Other financial services

In addition to its primary activities, Muthoot loans offers supplementary financial services such as gold coin sales, microfinance, housing loans, and money exchange.

These additional services enhance the company's value proposition by meeting the different financial needs of its clients.

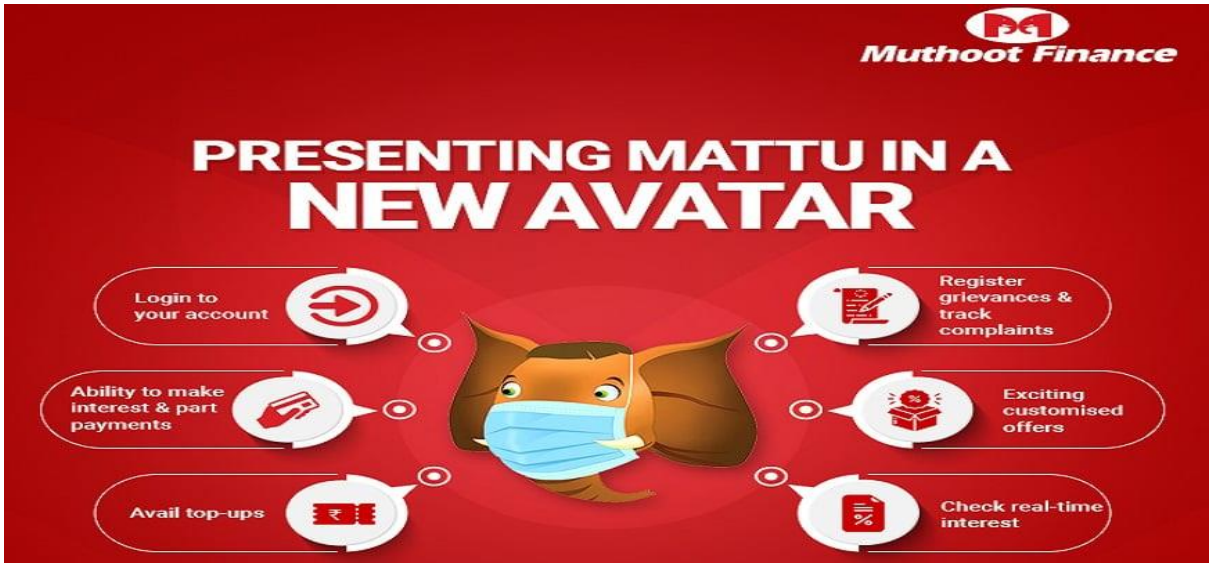
1.3 Network

Muthoot Finance has a large network of branches in India's cities, towns, and villages. This extensive network ensures that financial services are available to customers from all socioeconomic backgrounds. The company's branches are strategically positioned to cater to the needs of its diverse consumer base effectively. It has more than 6000 branches throughout the country.

1.4 Technology Integration

In recent years, Muthoot Finance has embraced technological advancements to enhance its operations and customer experience. The company has implemented digital solutions for loan processing, customer engagement, and online payments, streamlining its processes and improving efficiency. Through its mobile app and online platforms, Muthoot Finance offers convenience and accessibility to its customers, enabling them to manage their accounts and transactions seamlessly.

1.5 Mattu: an AI App of Muthoot Finance



Source: https://www.businessworld.in/article/Muthoot-Finance-launches-AI-Virtual-Assistant-Mattu-/28-09-2021-406416/

Customers of Muthoot Finance can communicate with the AI virtual assistant in both English and Hindi. This virtual assistant is also available on WhatsApp, allowing users to easily access crucial services through natural human interactions. With the introduction of this one-of-a-kind AI-powered Chatbot, Muthoot Finance is quickly emerging as a top lender that consistently provides a range of tailored, technology-powered services that benefit its consumers. Muthoot Finance recently announced a service that allows its gold loan customers to repay their loans or make interest payments via PayTM, Google Pay, and PhonePe. There are also great cash back deals for online interest payments. Muthoot Finance Gold Loan users can also access loan top-ups with a few clicks via WhatsApp. They can also receive a gold loan from the comfort of their own home with Muthoot Finance's Gold Loan at home service.

1.6 Financial Performance

Muthoot Finance has maintained consistent financial performance throughout the years, which reflects its excellent business model and careful management methods. The company

has constantly grown in revenue and profitability, owing to its primary business of gold loans. Its robust risk management strategies and varied product portfolio have helped to its resilience in the face of market volatility and economic challenges.

1.7 Corporate Social Responsibility

As a good corporate organisation, Muthoot Finance is dedicated to giving back to society through its CSR efforts. The corporation actively participates in a variety of social welfare initiatives, including healthcare, education, skill development, and community development programmes. Muthoot Finance's CSR efforts aim to positively touch the lives of marginalised groups and contribute to the general socioeconomic development of the places in which it works.

1.8 TASK HANDLED

During my internship with Muthoot Finance, I worked on a number of important tasks.

Gold Valuation: I took part in the process of valuing gold goods that clients brought in while I was an intern. This required weighing the gold using a scale and multiplying the result by the gold rate that Muthoot Finance had set.

Customer Onboarding and KYC Procedure: I helped with the onboarding of new clients by obtaining their driver's license, PAN card, and Aadhar card. Along with using the CRM software, I verified the documents with senior staff members and entered the customer data into Enzymes' CBS system as part of the KYC procedure.

Customer Verification for Current Customers: I had to get the contact information from current clients and look up their account information, using their unique customer ID to confirm who they were.

Interest Rate Calculation: Depending on the loan amount, interest rates could range from 1.75% to 0.83% or 0.90% per month. I learnt how to compute interest rates using this information.

Loan Takeovers: I handled the process of accepting takeover loans from various other banks, which necessitated taking takeover loan interest rates into account.

Extra Services: Muthoot Finance provided car insurance, family insurance, and other policies in addition to gold loans. I got the chance to learn about these services and help with their delivery.

1.9 Learnings

Throughout my internship, I learned a lot about a variety of elements within the financial services sector:

- I gained knowledge about how to operate scales and the process for assessing gold.
- I became more informed about KYC compliance requirements and customer onboarding processes.
- I was informed of how interest rates are determined and customized for various client groups.
- I gained knowledge of the procedures and factors involved in loan takeovers.
- I also learned how the Muthoot team handles loans in certain emergency scenarios.

I also learned why gold is still India's most popular investment thanks to this internship. It is simply not an investment, but it has far greater significance in people's lives. People borrow money for a variety of purposes, such as financing a child's wedding, college, unexpected medical expenses, growing a business, etc. How gold functions as a hedge against inflation was a crucial lesson learned from this experience.

1.10 Challenges

During my internship with Muthoot Finance, I faced various obstacles:

There was a learning curve in navigating software systems such as the CBS software that Enzyme offered. My ability to work with Excel and other computer programs was tested.

It was difficult to learn how to communicate effectively with customers when collecting and verifying documents.

One of the most important aspects of the internship was learning about and making sure that KYC standards and data protection laws were followed.

Managing the highly skilled and knowledgeable Muthoot staff who had a year or two of expertise in this field was fairly difficult. They were pleasant and supportive during any difficulties I encountered.

1.11 Summary

Muthoot Finance Limited is an example of trust and dependability in the Indian financial services industry. With its customer-centric strategy, strong business model, and dedication to quality, the organisation continues to set new standards for financial inclusion and empowerment. As an intern with Muthoot Finance, you will be able to gain vital insights into the dynamic world of NBFCs while also contributing to the company's growth. My immersive experience within the organisation provided me with important insights into its business processes, corporate culture, and unshakable commitment to excellence. Muthoot Finance's unwavering commitment to client service and financial inclusion has been obvious during my internship. The company's wide range of products and services, which include gold loans, money transfers, foreign exchange, insurance, and wealth management solutions, demonstrates its comprehensive approach to addressing its customers' different demands. Furthermore, its strategic network of branches, combined with innovative digital platforms, guarantees that financial services are easily available to people in urban, suburban, and rural locations. As I reflect on my internship , I am grateful for the important learning opportunities, mentorship, and professional progress that Muthoot Finance provided me. I am confident that Muthoot Finance will continue to thrive and innovate in the ever-changing financial world.

Abstract:

This study employs a number of performance evaluation metrics, such as the Sharpe, Treynor, Jensen, and Sortino ratios, to present a thorough examination of the performance dynamics of Gold Exchange Traded Fund (ETF) businesses in India. Important conclusions from statistical modeling and empirical study show that several Gold ETFs exhibit unique patterns. The SBI Gold ETF consistently shows superior risk-adjusted performance and generates excess returns in relation to expected market risk, making it a notable performer. While the performance of Kotak Gold ETF is respectable, the risk-adjusted performance of HDFC Gold ETF and Axis Gold ETF is comparatively superior, however it fluctuates over time. On the other hand, Axis Gold ETF has trouble producing steady risk-adjusted returns, while UTI Gold ETF has trouble producing excess returns.

Chapter1:Introduction

2.1 Background

Gold, known for its intrinsic value and historical significance, has continuously sparked the interest of investors seeking wealth preservation and diversification. Historically, investors have obtained exposure to gold through a variety of mechanisms, including actual ownership, gold mining stocks, and futures contracts. Investors are becoming confused about the several gold investment options available in the current highly volatile and dynamic market environment. According to several studies, 16,000 tonnes of gold are primarily found in jewellery in Indian households ((Nawaz & V. R., 2013). The amount of gold produced annually has tripled, the amount purchased annually has quadrupled, and gold markets have flourished globally since the early 1970s. More different types of investors and consumers than ever before are purchasing gold today.

A ten-year average of demand estimates that ends in 2016 (WGC) indicates an average yearly demand of 4100 tonnes (or roughly US $166 billion). About 54% of this demand is for jewellery, followed by 30% for investments (gold coins, bars, and ETFs), 10% for technology, and 6% for central banks. Due to the country's insatiable desire for gold, India's imports of the metal in 2012–13 accounted for a staggering 12.50% of all imports. With 4,130 tonnes of gold produced worldwide in 2012, India was the importer of 26.12%, or ¼ of the total gold produced worldwide. In the first half of the year (2017), India imported 450 tonnes of gold, more than twice as much as during the same period in 2016 (Shobha, 2017). As we can see, an investor's decision-making process is significantly influenced by gold spot prices, particularly in India. However, the introduction of Gold Exchange-Traded Funds (ETFs) has transformed the landscape of gold investing by providing a convenient and cost-effective alternative for market players

Gold ETFs give investors an option to purchase and sell gold through the trading of a security on a stock exchange, allowing them to participate in the gold bullion market without having to physically receive gold. Since a gold ETF is a passive investment, its value increases with increases in gold prices and decreases with decreases in gold prices.The primary goal of the introduction of gold exchange-traded funds (ETFs) in India was to improve market efficiency by augmenting liquidity. Liquidity is a disadvantage for gold exchange-traded funds (ETFs); illiquid ETFs limit the flexibility of purchasing and selling. Therefore, while investing in gold ETFs, investors should take this into account and adhere to liquid products. Indians have always loved to purchase gold and desired to own it. However, during the past year, India has seen a growth in investment of Rs. 303 crore in gold ETFs (Dr.P.Vidhyapriya & DR.M.Mohanasundari, 2011). Therefore, research on the performance assessment of returns is crucial. The performance study of Gold ETFs is critical for investors looking to determine the usefulness of these products in meeting their investing goals. In this regard, using a variety of performance evaluation indicators is critical for gaining a thorough knowledge of the risk-adjusted returns and efficiency of Gold ETFs. The Sharpe ratio, Treynor ratio, Jensen's alpha, and Sortino ratio are some of the most commonly used measures for evaluating investment performance, each offering distinct insights into different

aspects of risk and return.The objective of this research paper is to undertake a complete performance analysis of gold ETFs in the Indian financial market utilising these important performance parameters. We want to analyse the usefulness of Gold ETFs in increasing portfolio diversification and decreasing downside risk by comparing their risk-adjusted returns to traditional investing choices like stocks and fixed-income instruments. We hope to provide investors and stakeholders with actionable insights into the Indian gold market through empirical analysis and statistical modelling.

As per (Jayanthi et al., 2013) study on Gold ETFs examines the many investment possibilities for gold in today's turbulent and fast changing market, and how they can cause misunderstanding among investors. However, according to many studies like (Nawaz and Sudindra, 2013) it was found that many investors choose to invest in jewellery, gold coins, and bullion bars over ETFs, Futures, and Options, which offer higher profits and are easier to manage. According to (Goyal and Joshi,2011), Gold ETF trading differs significantly from NSE trading. Gold ETFs are gaining popularity as gold prices continue to rise. Investors are looking for a reliable source of future income without taxes or risk of theft. The analysis found that ETF prices are more stable than the NSE index. Gold ETFs enable investors to participate in the gold bullion market without the need for physical possession of gold, thus enhancing market efficiency and liquidity.

Chapter 2: Literature review

The accessibility and popularity of gold exchange-traded funds (ETFs) in the Indian market have increased recently, indicating a growing interest among investors in diversifying their portfolios and protecting themselves from market volatility. The examination starts by looking at research that compare the performance of gold exchange-traded funds (ETFs) to other investment vehicles, like mutual funds and equities ETFs, both domestically and internationally. It examines what causes the predicted and actual returns on gold ETFs to differ, especially when compared to developed markets. The examination delves into the correlation between gold prices

and stock market indexes, emphasizing the complex nature of these interconnected markets and their potential consequences for investors.

A study analysed that gold exchange-traded funds (ETFs) provide investors with a convenient way to invest in gold as a security without having to worry about the inconveniences of storage or any safety issues .However, the study also found that a significant number of gold exchange-traded funds (ETFs) that are presently offered in the Indian market show a significant departure from real gold returns. Compared to developed markets, India has a worse situation. This implies that the value of the gold ETF should fluctuate in tandem with changes in the price of gold. But frequently, the Gold ETF's net asset value presents a distorted image (Vidhyapriya and Mohanasundari., 2011). Similarly, a study reported that the ETFs that are now on the Indian market show a significant divergence from the real returns on gold. There are six reasons, according to this study, why gold ETFs are the greatest option for gold investments (Jayanthi et al.,2013)

Panchal (2021)studied the relationship between gold prices and stock market prices (Nifty) using monthly time series data from July 1990 to April 2016. He used Unit root test, correlation test, Granger causality test, and Johansson's co-integration test to assess the link. The analysis found no short-term causal link between the price of gold and the stock market. However, gold and stock market prices are cointegrated, showing a long-term equilibrium relationship and movement together. The CUSUM test reveals a long-run link between gold and stock market prices, with stable co-efficients. The stock market price can forecast the price of gold. The study suggests that worldwide investors should use portfolio stock selection strategies to enhance value to their investments in India, given the integration of gold and stock market prices. However, the breadth of these prospects is limited in the short term.

A study examined the factors that have a substantial impact on gold prices in India. Understanding the primary causes of gold price fluctuations is critical, as gold has long been a significant financial and cultural symbol in India. The study employs a comprehensive technique to investigate the evolution of gold prices, combining macroeconomic and market-specific data. The study begins by assessing previous research on the variables that influence the price of gold and identifying the critical

components. The study also looks at the unique aspects of the Indian market, such as regional demand patterns, festival seasons, government policies, and import/export regulations. The report provides a broader perspective of the Indian gold market by taking into account key elements. Understanding the factors influencing gold prices in India can assist market participants in forecasting price fluctuations, assisting governments in developing suitable regulations, and assisting investors in making sound judgements M & Marisetty., (2023).

Gurbaxani et al. (2023) conducted a quantitative analysis to explore the factors influencing individuals' perceptions and awareness regarding investments in Digital Gold and Gold Exchange Traded Funds (ETFs). They utilized a self-administered 5-point Likert questionnaire, completed by 158 individual investors actively engaged in these investment vehicles. The study identified factors attracting investors, such as convenience, security, and accessibility, while also highlighting deterrents including dissatisfaction, operational challenges, lack of awareness, brokerage fees, and impracticality. Notably, the analysis indicated that variables like dissatisfaction and lack of understanding exhibited high factor loadings, suggesting a pressing need for enhanced investor education on Digital Gold and Gold ETFs.

A study compared two prominent ETFs: Gold ETFs and Equity ETFs.It examined the performance differences between similar funds to help select the appropriate market instrument.The results showed that equity ETFs have consistently outperformed their benchmark indices in terms of returns over several quarters. However, the majority of Gold ETFs have had negative returns (losses) over the past three years Naveen (2016)

According to a study in which there was performance evaluation of five Gold ETF mutual fund schemes spanning the period from April 1, 2011, to March 31, 2020. The NAV of the selected schemes was compared to their yearly returns, and then they were compared to the benchmark London Bullion Market Association (LBMA) Benchmark, as well as the additional benchmark S&P BSE Sensex. Risk-adjusted performance measures, fund management effectiveness, and return and risk analysis were used to assess each of the five mutual fund schemes. Remarkably, all five schemes have surpassed the S&P BSE Sensex in terms of total average returns over

the past decade.The negative Treynor ratios across all schemes suggest underperformance relative to a risk-free asset. Wachasundar et al., (2022)

Selvan & Ramraj, (2021) analyzed and compared the performance of gold exchange-traded funds (ETFs) in India during the COVID-19 pandemic. This assessment includes measuring the alpha, beta, and standard deviations of selected ETFs traded on the NSE, utilizing performance evaluation tools such as the Treynor Performance Index, the Sharpe Performance Index, and the Jensen Performance Index. These analyses provide essential insights necessary for making investment decisions amid the COVID-19 pandemic in India. As investor interest in gold surged and prices escalated, leading to investments in these ETFs, understanding their performance metrics became increasingly vital for informed decision-making.

Goyal & Joshi, (2011) investigates the risk profile of investing in gold exchange-traded funds (ETFs). The analysis reveals that ETF prices exhibit comparatively lower volatility than the NSE index. This finding has contributed to a gradual uptick in ETF investments over time. The rising investor confidence in ETFs indicates a promising trajectory for gold ETFs within the Indian market.

Nargunam & Anuradha, (2017) studied that while gold exchange-traded funds (ETFs) are typically effective investment vehicles, the inefficiencies that these funds introduce into the market appear to be impeding their price discovery process. Regulatory agencies can prevent information asymmetries, though, by enforcing strict laws. It is anticipated that measures taken by policy makers to stabilise the Indian Gold ETF market will facilitate a successful derivatives price discovery mechanism, which will help the Indian GETF market become more efficient.

Garg, (2022) examined the impact of behavioural biases on investor choice for Gold etfs. Investing in gold necessitates an awareness of the psychological components of the process. According to the analysis, there will be a significant market for gold in both India and outside. The COVID-19 epidemic momentarily reduced the market's demand for gold. It was observed that investors have been drawn back to the gold market and gold exchange-traded funds (ETF) globally. According to a number of World Gold Council reports and factors influencing gold

prices, gold and gold-related exchange-traded funds (ETFs) will continue to be important parts of investment portfolios in the years to come.

The reasons behind the increase in gold prices in India, the patterns in demand and price movements, and the fluctuations in gold prices were all examined by Dr. Partap Singh, (2014) This article also looked at the patterns and trends that are comparable between China and India. He thinks investors should give gold some thought because of its 12.27% return on investment.

Verma & Dhiman, (2020) found a causal link between the spot prices of gold, the SENSEX, and 10 particular BSE-listed gold exchange-traded funds. The analysis came to the conclusion that gold ETFs are heavily impacted by changes in the current price of gold. Consequently, it is imperative for an investor to comprehend the pricing dynamics of the ETF's underlying asset.

With reference to the years 1991–2011, Patel (2013) examined the causal association between gold prices and stock market indexes. The investigation comes to the conclusion that there is long-term equilibrium between the variables. Additionally, the Granger causality test demonstrates that gold prices provide important information for predicting the return on the Nifty.

Three gold-backed and three silver-backed exchange-traded funds (ETFs) were analysed by Michael, J. Naylor et al. (2011), who also checked the return performance of the funds against the body of information regarding the physical behaviour of gold and silver. The testing showed a striking degree of agreement between the ETFs' return characteristics and the physical gold and silver assets found in earlier research. It was discovered that the chances of a trading system user outperforming a passive investor are minimal.

The diversification, hedging, and safe haven qualities of gold stocks, bullion, mutual funds, and exchange-traded funds (ETFs) were investigated by Tim Pullen et al. (2011). According to the analysis, gold bullion offers significantly more hedging potential than just diversification. Diversifiers include gold mutual funds, gold stocks, and gold exchange-traded funds (ETFs). Another conclusion is that the safe haven property is supported by both gold ETFs and bullion. However, there isn't much proof of the safe haven quality in gold mutual funds or equities. They

came to the conclusion that gold mutual funds and equities are typically unreliable for investors who are eager to secure the safe haven aspects of gold investments. Rather, they must open direct holdings in gold or bullion exchange-traded funds.

A better comprehension of investors' attitudes and knowledge surrounding gold investment decisions, as well as the present standing of physical gold relative to other gold investment products, were investigated by Jalpa Thakkar et al. (2013). The Pune area was the sole focus of the investigation. It was discovered that before choosing to invest in gold, investors conduct a market study and information search. Studies also highlight the depth of knowledge on the newest developments in gold investment options, such as gold exchange-traded funds (ETFs), gold funds, and gold ETFs and how people still have comparatively less knowledge about it.

Prashanta Athma & Mamatha B. (2012) discovered that the rise in gold prices and the launch of Gold ETFs have caused the ETFs to perform better than Index Funds. If investors are made aware of ETFs, they can emerge as the best alternative to traditional investments.

O'Connell, R.(2007) came to the conclusion that although the gold market is modest in relation to equities and bonds, it is very liquid, with best estimates placing daily worldwide trade volume around $40 billion. Gold ETFs are a low-cost way to get market exposure using a typical brokerage account. They were designed to give all investors access to gold with the simplicity of trading an equity share on an exchange. Due to its ability to act as a hedge against inflation, the currency, and geopolitical concerns, gold is regarded as a safe haven that appreciates in value over time. Due to its lack of meaningful association with any other asset class, gold can be used as a risk management tool and portfolio diversifier.

Based on studies conducted by Vipin Kumar Aggarwal et al. (2013), there is less volatility in gold exchange-traded funds (ETFs) than there is in physical gold. This leads to the conclusion that the performance of gold ETFs is superior to that of actual gold.

Kaur & Singh,(2020) found that Gold ETFs and spot gold,as well as gold futures, will eventually converge. Additionally, it has been observed that changes in spot and futures prices trail changes in ETF prices, giving traders in ETFs opportunity to implement effective trading methods. The research delves deeper into the likely causes that could explain the apparent inefficiencies in ETF prices.All of the benefits of investing in gold may be enjoyed by investors with the help of gold exchange-traded funds (ETFs), which also solve the problems of unjustifiably high pricing, purity, and the accompanying storage and insurance costs of holding actual gold.

Eswara, M.(2015).assessed the post-crash performance of the Gold ETF and found that it outperformed several other mutual funds, funds of funds, and other ETFs during this time. The study's conclusion states that, in the Indian context, gold investing is a superior financial choice. It is believed that gold should be included in an investor's portfolio management in order to hedge or reduce risks associated with market or economic changes of any kind.

According to Nedeljkovic (2005), gold ETFs' potential was still unrealized, but they may play a big role in driving up the price of gold and increasing demand for the metal.

The safe haven, hedging, and diversification qualities of gold stocks, bullion, gold ETFs, and gold mutual funds were studied by Benson and Faff (2011). They discovered that these all frequently serve as diversifiers. The safe haven characteristics of gold were supported by both gold bullion and gold ETFs, but there was little evidence of these characteristics in the case of gold mutual funds and gold stocks. As a result, investors who were keen to secure the safe haven characteristics of gold could not typically rely on gold mutual funds or gold stocks. Alternatively, they had to make direct investments in gold ETFs or bullion.

According to Mukul, M. K., Kumar, V., Ray, S., et al. (2012) investing in gold yielded a higher monthly return than a fund that included a variety of stocks. They discovered that a specific percentage of investors' money ought to be placed in gold. Thus, a gold mutual fund or gold exchange-traded fund (ETF) became the perfect investing tool.

Jensen (2002**)** studied the performance of 115 open-end mutual funds from 1945 to 1964. Sharpe, Lintner, and Treynor are used to create specific metrics of a portfolio's performance across the dimensions. These 115 mutual funds were not able to predict securities prices well enough to outperform a buy-and-hold strategy on average, but there was also little indication that any particular fund could do considerably better than what would be expected from pure random chance. Furthermore, Jensen's research does not address the issue of diversity.

Sharpe (1966**)** analysed and used contemporary capital theory and stock market price behaviour to quantify and predict mutual fund performance. It is determined that performance can be measured using a basic but theoretically significant metric that considers both average return and risk. This measure precludes the "discovery" of performance disparities caused purely by differences in aims. To a large part, they can be explained by differences in expense ratios, lending credence to the concept that the capital market is extremely efficient and that successful managers focus on risk assessment and diversification while devoting little effort (and money) to the search for overpriced securities.

Glode (2011) proposed a simple model that replicates the negatively risk-adjusted performance of actively managed equities mutual funds. In the model, a fund manager can generate state-dependent active returns at a loss of utility. Negative expected performance and mutual fund investing coexist in equilibrium because the active return generated by the fund management correlates favourably with a component of the pricing kernel that the performance measure ignores, according to new empirical findings. The analysis of 3,147 actively managed U.S. stock mutual funds from 1980 to 2005 revealed that funds with poor unconditional performance tend to demand high fees and create very countercyclical risk-adjusted returns.

Grinblatt & Titman (1994) groundbreaking research adds a great deal to the body of knowledge on the assessment of mutual fund performance and the variables that affect it. They offer insightful information on how sensitive performance evaluations are to benchmark selection based on their empirical comparison of performance measures, which include the Jensen Measure, the Positive Period Weighting Measure (PPWM), and a measure developed from Treynor-Mazuy's

quadratic regression.They also explore factors impacting mutual fund performance in addition to comparing performance measurements. Understanding the factors that influence fund performance is aided by their analysis of fund characteristics such net asset value, load, expenses, portfolio turnover, and management fee.

Sorros (2003**)** evaluated the performance of sixteen equity mutual funds in the Greek financial market from January 1, 1995 to December 31, 1999. The sample mutual funds were graded according to their return, total risk, coefficient of variation, systematic risk, and Treynor and Sharpe procedures. Four mutual funds returned less than the General Index of the Athens Stock Exchange (ASE). All sixteen mutual funds have lower total risk and risk-return coefficients compared to the ASE General Index. All mutual funds have a statistically significant beta coefficient at the 5% level.The alpha coefficient was statistically significant at the 5% level in eight mutual funds. The changes of the ASE's General Index explain more than 80% of the difference in return among the sixteen mutual funds. Eight mutual funds were ranked in the same order using Treynor's or Sharpe's approach.

2.1 Research Gap

There is a substantial lack of research in understanding the role of gold exchange-traded funds (ETFs) in the Indian gold market and guiding investors through the complexities of gold investing in the current market conditions. The literature currently in publication offers limited insights into the performance evaluation of ETFs in India. This study gap emphasizes the need for a thorough examination of the top five Gold ETFs in India and the returns used for calculation of various ratios have been calculated quarterly. The Rf rate and also the domestic gold price used for calculations is taken quarterly which gives a more thorough understanding of this ETFs performance.

2.2 Aim and objectives

Aim: The primary goal of this research study is to conduct an in-depth performance analysis of Gold ETFs in the Indian financial sector.

2.3 Objectives

i.) To assess Gold ETF performance.
ii.) To have an overall comparision of this Gold ETFs based on factors like fund size, expense ratio, minimum investment,etc.

2.4 Research question

i.) What is the performance of Gold ETFs in the Indian financial market based on several performance indicators?
ii.) Which AMC charges higher expense ratio?

2.5 Research Scope

The goal of the study paper is to provide a thorough examination of Gold Exchange-Traded Funds' (ETFs') performance on the Indian financial market. It will look into a number of topics pertaining to gold investment and exchange-traded funds (ETFs), with an emphasis on understanding the function of gold ETFs in the Indian gold market and offering insightful advice to investors attempting to negotiate the challenges of gold investing in the current market climate.The overall goal of the research study is to add to the body of knowledge by utilising statistical modelling and empirical analysis to give investors and other stakeholders in the Indian gold market useful information.

Chapter 3: Methodology

This study is restricted to NSE-traded gold exchange-traded funds (ETFs). There are 27 funds listed on the NSE. Here, we have just included the top 5 funds. In order to provide clear identification and meet the study's objectives, the relevant secondary data was gathered from both the AMFI and the AMC websites. The years of sampling are 2014 through 2023 (10 years). The length of the survey is chosen to incorporate the greatest number of Gold ETFs into the research while also taking into account the data availability and the date of the inception of funds. Secondly, there was a sharp increase in the demand for gold during this

time, as well as for Gold ETFs. The research employs a range of financial metrics, including Treynor ratio, Sharpe, beta, and standard deviation. These metrics are explained as follows: The standard deviation, beta, sortino ratio, Jensen measure index, Treynor portfolio index, and Sharpe's index are the five metrics. The calculation is done using quarterly returns.
Below are the Gold ETF funds used for analysis:

Table 3.1

ISSUER	NAME	SYMBOL
Axis Mutual Fund	Axis Gold ETF	AXISGOLD
Kotak Mutual fund	Kotak Gold Exchange Traded fund	KOTAKGOLD
HDFC Mutual fund	HDFC Gold Exchange Traded fund	HDFCMFGETF
UTI Mutual fund	UTI Gold Exchange Traded fund	GOLD SHARE
SBI Mutual fund	SBI Gold ETF	SETFGOLD

***NOTE: The risk free (Rf) rate used for calculations is of 91 day T-bills monthly rate from 2014-2023.**

***Source of data**

a.) ETF NAV- AMFI, AMC WEBSITE

b.) 91 day T- Bills Rate (Quarterly)- RBI WEBSITE

c.) Domestic Gold price- Investing.com

*** The Sharp Index Ratio measurement**

The equity risk premium in relation to the overall risk of the portfolio is computed using the Sharpe ratio. The formula for calculating the Sharpe index is;

(Average return on portfolio - Risk-free rate)/ Standard deviation of portfolio

S = Rp-Rf /σp. Where the Sharpe index is S
Rp = Average annual return on investment
Rf is the risk-free rate.

*** Treynor's ratio**

A systematic risk-based measure of portfolio performance is provided by Treynor's Ratio, which is computed using portfolio beta coefficients. It is employed to provide a value to the interest on various assets. The calculation of the risk-adjusted rate of return involves dividing the asset risk premium by its beta coefficient.
Tn = Rp-Rf /ßp Where
Tn= Treynor's index
Rp = Average annual return on investment
Rf is the risk-free rate.
ßp= The portfolio's beta coefficient

***Jensen Alpha**

The Jensen ratio determines the portion of the portfolio's return rate that may be attributed to the manager's ability to generate above-average returns while accounting for market risks.
Alpha = (R (i) - (Rf + ß·(RM-RF))
where Ri is the investment's or portfolio's realized return.
Rm = The relevant market index's realized return
Rf is the risk-free rate of return for the specified time frame.
ß is the investment portfolio's beta in relation to the selected market index.
The domestic gold price (quarterly) is used to calculate the covariance between the price of gold (2014–2023) and the returns of the ETF in order to calculate Jensen alpha.

*** The standard deviation**

It is employed to compute the deviation between the predicted average return and the individual return over a certain time period. Standard deviation is used in the definition of

risk in an investment portfolio. A lower standard deviation indicates more predicted return volatility.

***The Sortino Ratio**

When assessing the performance of investments where investors are primarily concerned with minimizing downside risk, as in the case of hedge funds or conservative portfolios, the Sortino Ratio is a useful tool because it is a risk-adjusted measure of return that focuses only on the downside risk of an investment, unlike the Sharpe Ratio, which takes into account both upside and downside volatility. The formula for Sortino Ratio is:

Sortino Ratio= Rp-Rf/σd

Where:

Rp= the average return of the investment (portfolio)

Rf= the risk-free rate of return

σd= the downside deviation, which measures the volatility of negative returns

Chapter 4: Data analysis and interpretation

A. SHARPE RATIO

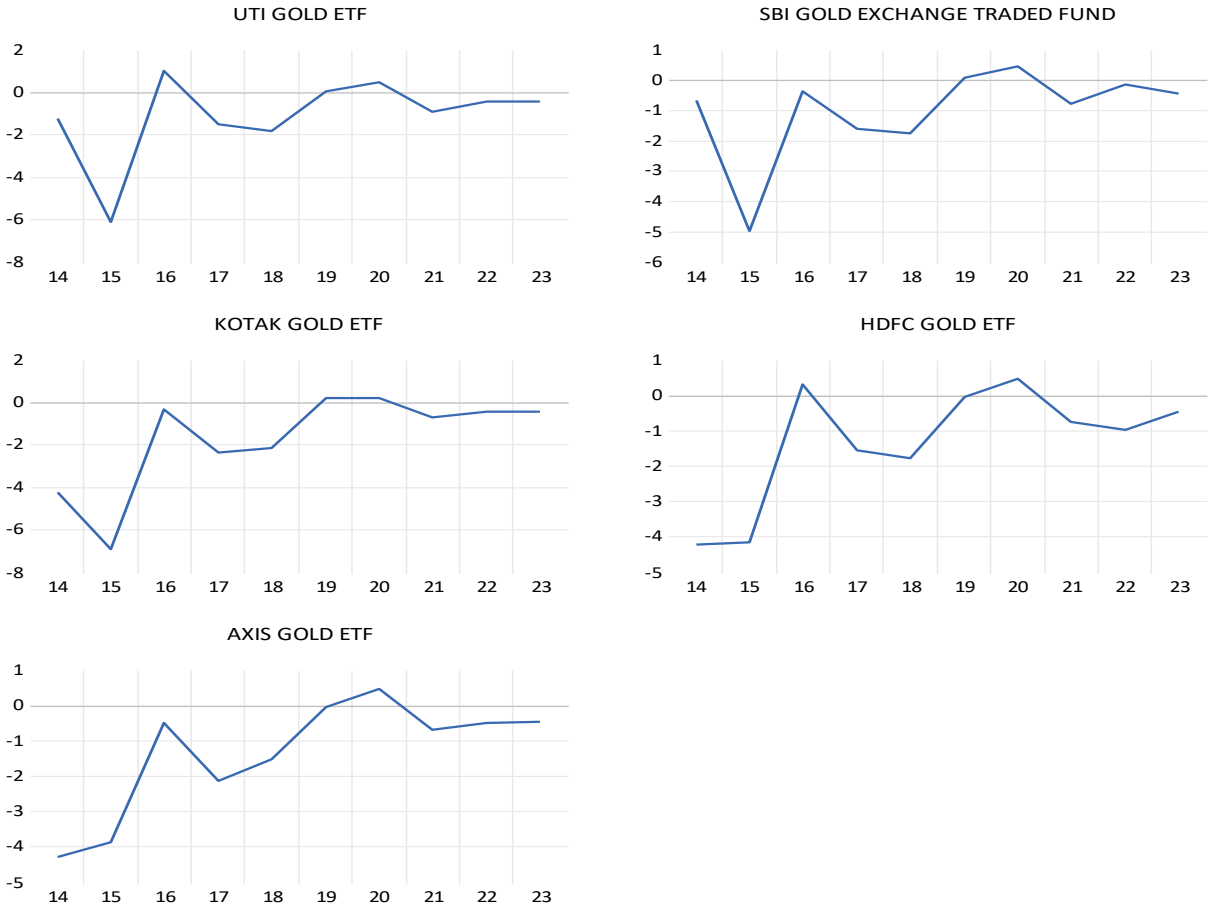
YEARS	SBI GOLD ETF	KOTAK GOLD ETF	HDFC GOLD ETF	UTI GOLD ETF	AXIS GOLD ETF
2014	-0.65	-4.22	-4.22	-1.25	-4.28
2015	-4.96	-6.92	-4.14	-6.10	-3.86
2016	-0.36	-0.35	0.32	1.00	-0.49
2017	-1.62	-2.36	-1.55	-1.48	-2.13
2018	-1.76	-2.12	-1.76	-1.85	-1.52
2019	0.08	0.19	-0.03	0.03	-0.04
2020	0.44	0.21	0.46	0.47	0.48
2021	-0.77	-0.71	-0.75	-0.91	-0.70
2022	-0.16	-0.44	-0.96	-0.44	-0.48
2023	-0.45	-0.45	-0.46	-0.45	-0.45

i. When compared to the other ETFs, Kotak Gold ETF and UTI Gold ETF have the lowest Sharpe ratios, indicating comparatively worse risk-adjusted performance

ii. The slightly higher Sharpe ratios of the HDFC Gold ETF and the Axis Gold ETF suggest slightly better risk-adjusted performance.

iii. In comparison to the other Gold ETFs, SBI Gold ETF has the best Sharpe ratio in the group, indicating comparatively higher risk-adjusted performance.

SHARPE RATIO GRAPH



SBI GOLD ETF- The Sharpe ratio for SBI Gold ETF is calculated to be approximately -0.55 based on the provided data. The SBI Gold ETF's average returns have not outpaced the risk-free rate of return, as indicated by the negative Sharpe ratio figure. Among the gold ETFs examined, SBI Gold ETF has the highest Sharpe ratio; however, it's crucial to remember that all of the ETFs have negative Sharpe ratios, which denote underperformance in comparison to the risk-free rate. Consequently, even though the SBI Gold ETF outperformed the others in terms of risk-adjusted returns, it was still unable to produce risk-adjusted returns that were adequate throughout the time under study.

KOTAK GOLD ETF- Kotak Gold ETF has performed considerably worse in terms of risk-adjusted return throughout the examined period when compared to other Gold ETFs. The Kotak Gold ETF has a negative Sharpe ratio, which means that investors considering it might not get enough return to offset the amount of risk they are taking. They might have to carefully balance the possible advantages and disadvantages of purchasing this ETF, taking into account things like risk tolerance, financial goals, and portfolio diversification.

HDFC GOLD ETF- The Sharpe ratio of the HDFC Gold ETF is marginally higher than that of the Kotak Gold ETF, suggesting comparatively superior risk-adjusted performance during the examined time. It is still negative, though, indicating that there is still opportunity to raise the yield of returns that offset the degree of risk assumed.

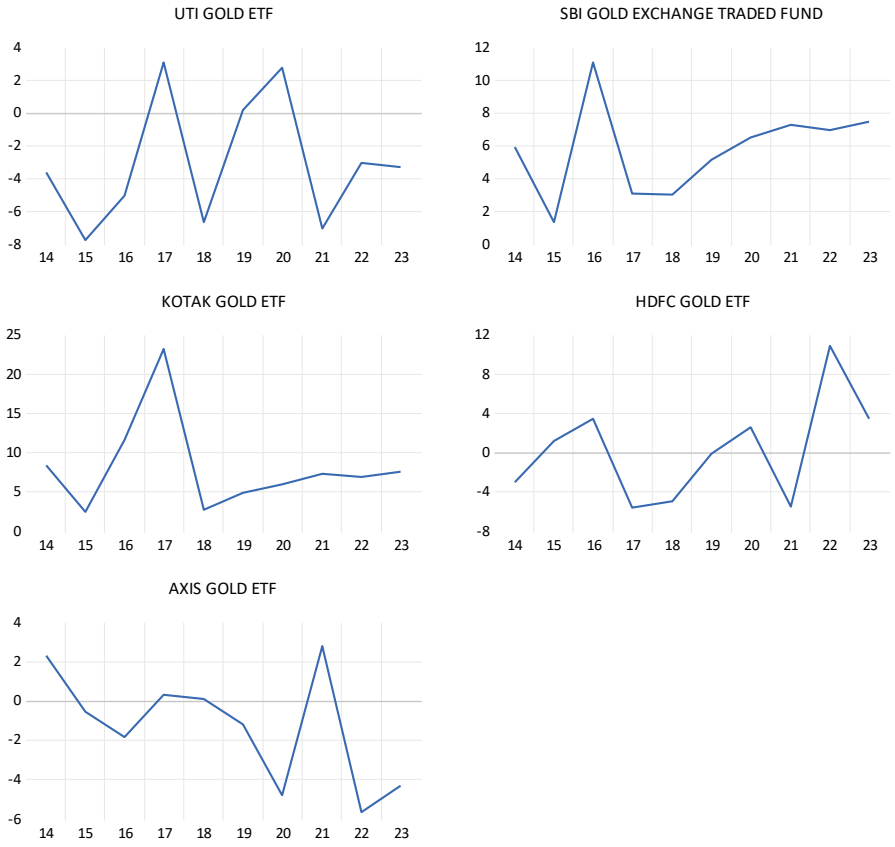
UTI GOLD ETF- The UTI Gold ETF's negative Sharpe ratio emphasizes how the fund's returns haven't been high enough to compensate for the risk involved in investing in it. This can be the result of a number of things, including management costs, market volatility, or other performance inefficiencies in the ETF.

AXIS GOLD ETF- The negative Sharpe ratio's magnitude (-0.71) is deemed to be moderate. Even if the ratio is negative, it's not as negative as it could be in comparison to some other Gold ETFs, suggesting that it performed better risk-adjusted than those with greater negative ratios. Still, it points to a performance that is below average when it comes to risk-adjusted returns.

B. TREYNOR RATIO

YEARS	SBI GOLD EXCHANGE TRADED FUND	KOTAK GOLD ETF	HDFC GOL	UTI GOLD	AXIS GOLD ETF
2014	5.93	8.45	-2.97	-3.63	2.32
2015	1.34	2.52	1.2	-7.79	-0.56
2016	11.04	11.63	3.44	-5.06	-1.86
2017	3.06	23.19	-5.56	3.08	0.32
2018	3.02	2.78	-4.96	-6.7	0.11
2019	5.1	4.9	-0.15	0.16	-1.2
2020	6.48	6.04	2.55	2.77	-4.8
2021	7.29	7.27	-5.47	-7.04	2.8
2022	6.95	6.94	10.91	-3.04	-5.67
2023	7.44	7.54	3.46	-3.35	-4.32

TREYNOR RATIO GRAPH



SBI GOLD ETF- the SBI Gold ETF has generated excess returns in relation to the anticipated market risk, demonstrating comparatively good risk-adjusted performance over the studied period, according to the computed Treynor ratios. This suggests that investors might have received fair compensation given the degree of risk involved in purchasing SBI Gold ETFs.

KOTAK GOLD ETF- In comparison to the expected market risk over the years under study, the Kotak Gold ETF appears to have done reasonably well in terms of risk-adjusted returns, based on the overall trend of positive Treynor ratios.

HDFC GOLD ETF- The combined positive and negative Treynor ratios of the HDFC Gold ETF show inconsistent performance over time. The HDFC Gold ETF's fluctuating Treynor Ratios suggest that the fund's performance varies over time with respect to systematic risk.

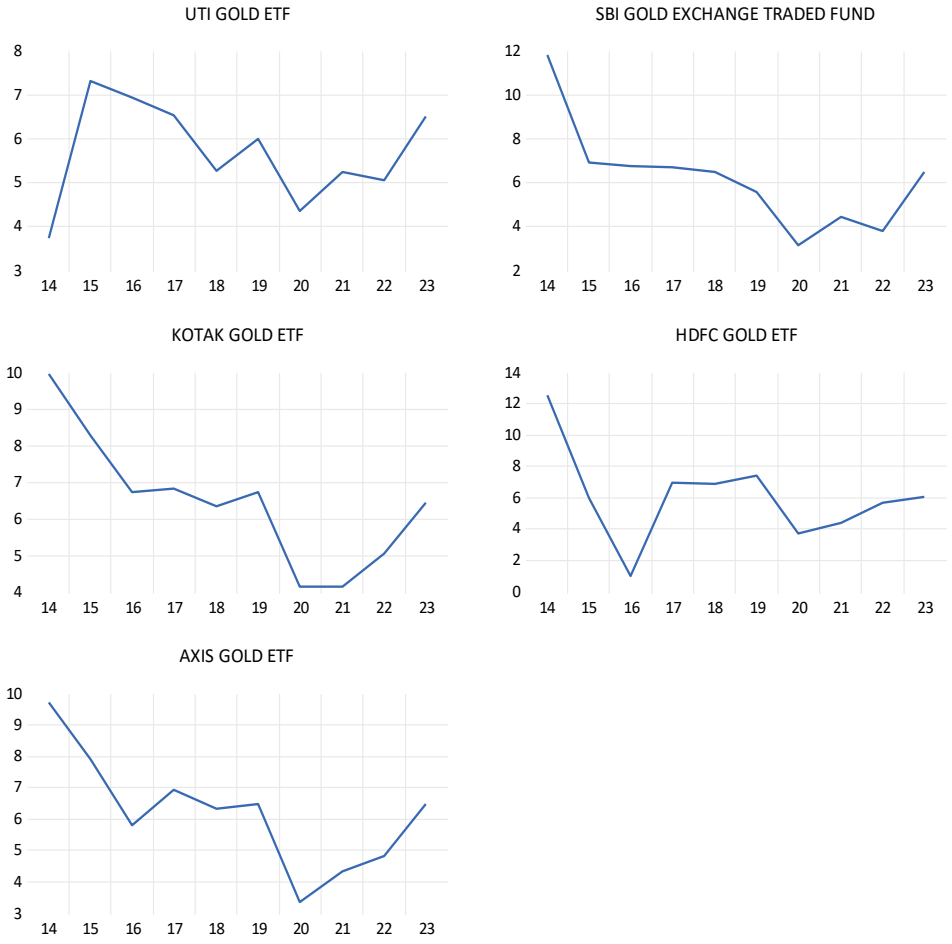
UTI GOLD ETF- Poorer risk-adjusted performance is shown by a larger negative Treynor ratio since the ETF is producing fewer excess returns per unit of market risk. The UTI Gold ETF appears to have had difficulty producing excess returns in comparison to the estimated market risk, based on the general pattern of negative Treynor ratios.

AXIS GOLD ETF- A poor Treynor Ratio indicates that the Axis Gold ETF's returns might not be sufficient to offset investors' systematic risk-taking.
Based on the amount of systemic risk it carries, this suggests that the fund's performance in terms of returns is not living up to expectations.

C. JENSENS ALPHA

YEARS	SBI GOLD	KOTAK GC	HDFC GOL	UTI GOLD	AXIS GOLD ETF
2014	11.83	9.94	12.54	3.75	9.71
2015	6.94	8.26	6	7.31	7.93
2016	6.76	6.74	1.03	6.94	5.8
2017	6.71	6.82	6.97	6.54	6.93
2018	6.48	6.34	6.85	5.27	6.34
2019	5.6	6.73	7.44	6	6.48
2020	3.18	4.16	3.75	4.36	3.35
2021	4.42	4.13	4.42	5.25	4.33
2022	3.8	5.06	5.7	5.06	4.81
2023	6.5	6.45	6.05	6.5	6.5

JENSEN RATIO GRAPH



SBI GOLD ETF- The SBI Gold ETF has surpassed the expected return based on its systematic risk as determined by the Capital Asset Pricing Model (CAPM), according to a positive Jensen Alpha.This suggests that the SBI Gold ETF has produced excess returns above its beta's (systematic risk) prediction.

KOTAK GOLD ETF- According to Jensen Alpha, the Kotak Gold ETF has, over some time periods, fared better than predicted given its systematic risk as determined by the Capital Asset Pricing Model (CAPM). When the Jensen Alpha for the Kotak Gold ETF is zero, it means that its returns throughout past periods have been in line with what would be expected given the amount of systematic risk it carries**.**

HDFC GOLD ETF- Throughout the observed periods, the Jensen Alpha for the HDFC Gold ETF has been primarily positive.The HDFC Gold ETF's positive Jensen Alpha suggests that its performance has exceeded expectations based only on its systematic risk exposure.

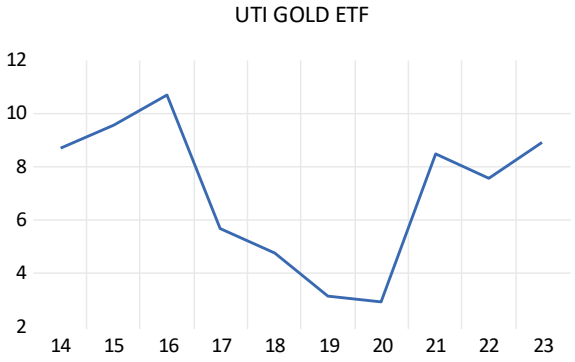
UTI GOLD ETF- Given its capacity to generate returns that are higher than anticipated given the degree of systemic risk it carries, investors may have a favorable opinion of the UTI Gold ETF. The UTI Gold ETF's positive Jensen Alpha suggests that its performance has outperformed expectations based only on its systematic risk exposure.

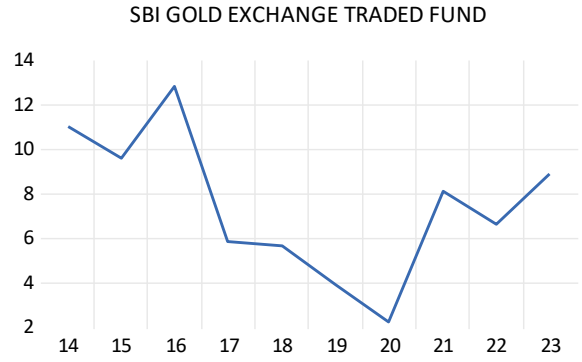
AXIS GOLD ETF- Over time, the Axis Gold ETF has shown a range of performance trends, including times when it has outperformed and underperformed.Jensen's Alpha for the ETF was positive in 2014, 2017, 2018, and 2021, but negative in the other years, showing inconsistent performance. Jensen's Alpha shows notable variations in performance from year to year, with the highest positive alpha of 2.80 in 2021 and the lowest negative alpha of -5.67 in 2022.

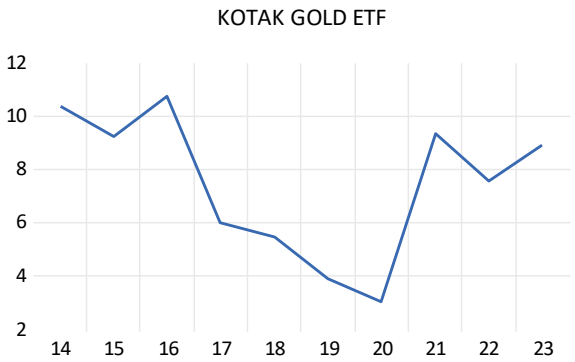
D.) SORTINO RATIO

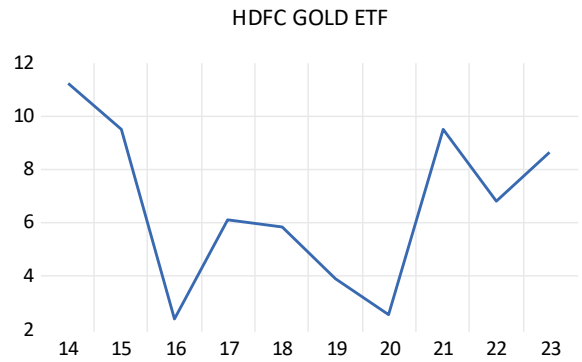
YEARS	SBI GOLD ETF	KOTAK GOLD ETF	HDFC GOLD ETF	UTI GOLD ETF	AXIS GOLD ETF
2014	10.99	10.38	11.24	8.72	12.61
2015	9.57	9.25	9.49	9.53	13.91
2016	12.78	10.71	2.42	10.66	6.01
2017	5.84	6.03	6.11	5.69	5.12
2018	5.64	5.46	5.86	4.75	2.33
2019	3.9	3.89	3.91	3.18	6
2020	2.23	3.06	2.59	2.93	6.53
2021	8.08	9.33	9.52	8.47	16.24
2022	6.6	7.59	6.83	7.59	7.18
2023	8.9	8.9	8.63	8.9	8.9

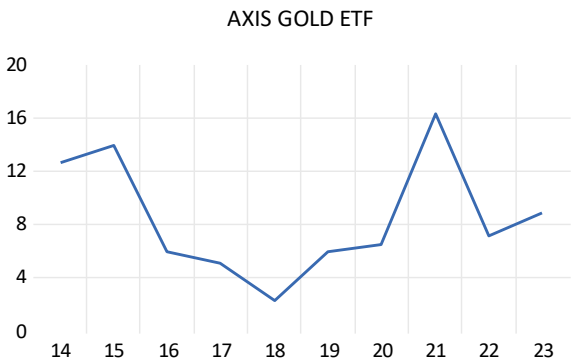
SORTINO RATIO GRAPH











SBI GOLD ETF- A favorable Based on its beta and risk-free rate, the SBI Gold ETF has surpassed its projected return, according to Sortino's ratio. It implies that given the ETF's risk profile and the performance of the benchmark gold market, its returns have above expectations.

KOTAK GOLD ETF- The Kotak Gold ETF's positive Sortino Ratio indicates that, when only the downside deviation or risk is taken into account, the ETF has produced returns above a given objective or minimum acceptable return.When compared to investments with lower or negative Sortino Ratios, the Kotak Gold ETF's consistently positive ratio suggests that investors have received returns that offset the downside risk they assumed. This could suggest a more favourable risk-return profile.

HDFC GOLD ETF- Regarding risk-adjusted returns, investors may see the HDFC Gold ETF favorably because of its positive Sortino Ratio, which indicates that it has outperformed the market in terms of rewards compared to downside risk.

UTI GOLD ETF- When taking into account the risk-free rate or threshold return, the negative values of the Sortino Ratio show that, generally speaking, the excess returns of the UTI Mutual Fund were not enough to offset the downside volatility. Greater (less negative) Sortino Ratios are indicative of comparatively better risk-adjusted performance, meaning the mutual fund has produced excess gains with less volatility during the downside. A lower (more negative) Sortino Ratio denotes comparatively worse risk-adjusted performance, implying that despite substantial downside volatility, the mutual fund has not been able to produce excess returns. In conclusion, the Sortino Ratio analysis raises the possibility that UTI Mutual Fund encountered difficulties over the course of the study in providing steady risk-adjusted returns, especially when taking downside risk into account.

AXIS GOLD ETF- the Sortino Ratio analysis suggests that Axis Gold ETF may have faced challenges in delivering consistent risk-adjusted returns over the analyzed period, particularly when considering downside risk. When taking into account the risk-free rate or threshold return, the negative values of the Sortino ratio show that, generally speaking, the excess returns of the Axis Gold ETF were insufficient to offset the downside volatility.

KEY HIGHLIGHTS OF THE GOLD ETFs: An overall comparision

FUND NAME	Sbi Gold ETF	Kotak Gold ETF	HDFC Gold etf	UTI GOLD ETF	Axis Gold ETF
CURRENT NAV (as of Apr 26 2024)	63.01	61.51	62.74	61.78	61.47
Fund Size (Cr)	4228.54	3732.92	4507.84	1052.76	864.51
Expense Ratio	0.65%	0.55%	0.59	0.46	0.56
Minimum investment	5000	100	5000	20000	5000

Chapter 5: RESEARCH FINDINGS

These conclusions are based on the data and analysis that were presented:

a.) Sharpe Ratio Analysis: The risk-adjusted performance of UTI Gold ETF and Kotak Gold ETF is continuously lower, indicating poorer performance.
The slightly higher Sharpe ratios of the HDFC Gold ETF and the Axis Gold ETF indicate somewhat better risk-adjusted performance.
With the best Sharpe ratio of the group, SBI Gold ETF stands out and shows a slightly higher risk-adjusted performance.

b.) Treynor Ratio Analysis: Over the examined period, SBI Gold ETF generated excess returns relative to predicted market risk, exhibiting reasonably good risk-adjusted performance.
Based on the general trend of favorable Treynor ratios, the Kotak Gold ETF has done fairly well in terms of risk-adjusted returns.
Treynor ratios for the HDFC Gold ETF fluctuate over time, indicating uneven performance.
Greater negative Treynor ratios, which indicate fewer excess returns per unit of market risk, are indicative of UTI Gold ETF's worse risk-adjusted performance.
The Treynor ratios of the Axis Gold ETF indicate that its returns could not be high enough to counteract investors' systematic risk-taking.

c.) Jensen's Alpha Analysis: Based on systematic risk, the SBI Gold ETF regularly outperforms the expected return, demonstrating excess returns over its beta's projection, according to Jensen's Alpha Analysis.
Considering its systemic risk over certain periods of time, the Kotak Gold ETF has performed better than expected.
Based on its systematic risk exposure, the positive Jensen Alpha of the HDFC Gold ETF indicates performance that has surpassed expectations.
With a positive Jensen Alpha, the UTI Gold ETF also produces returns that are higher than expected considering its systemic risk.

The performance of the Axis Gold ETF varies significantly from year to year, with erratic Jensen's Alpha values**.**

d.) Sortino Ratio Analysis: The positive Sortino Ratio of the SBI Gold ETF shows that it has continuously generated returns above estimates when taking downside risk into account.

The positive Sortino Ratio of the Kotak Gold ETF indicates a positive risk-return profile, whereby rewards balance out downside risk.

The Sortino Ratios of the HDFC Gold ETF and the UTI Gold ETF are both positive, indicating strong risk-adjusted performance.

Delivering consistent risk-adjusted returns is a challenge for the Axis Gold ETF, particularly when taking downside risk into account.

Key findings of the Gold ETFs:

- Among the group, the SBI Gold ETF has the largest fund size and NAV, albeit at a somewhat higher expense ratio.
- The Kotak Gold ETF offers a minimal investment requirement and a comparatively low expense ratio.
- The NAV and expense ratios of Axis Gold ETF and HDFC Gold ETF are comparable.
- The fund size and NAV of the UTI Gold ETF are the lowest, but its expense ratio is competitive.

6. CONCLUSION

In order to sum up, this study has offered a thorough examination of the performance dynamics of Indian Exchange Traded Fund (ETF) firms. Our thorough analysis of several performance metrics, including the Treynor, Jensen, Sortino, and Sharpe ratios, has given us important new understandings of the efficiency and risk-adjusted returns of Gold ETFs in the Indian financial market. The study's conclusions provide important new information about the dynamics of the performance of Indian Gold Exchange Traded Fund (ETF) businesses. Different patterns are revealed by thorough analysis using the Treynor, Jensen, Sortino, and Sharpe ratios. SBI Gold ETF regularly outperforms expectations and yields excess returns by exhibiting superior risk-adjusted performance across a number of measures. While Axis Gold ETF and HDFC Gold ETF show significantly superior risk-adjusted performance, they fluctuate over time. Kotak Gold ETF performs reasonably, keeping a solid risk-return profile. On the other hand, Axis Gold ETF has trouble producing steady risk-adjusted returns, while UTI Gold ETF has trouble producing excess returns. SBI Gold ETF stands out as a strong performer in terms of risk-adjusted returns, further reinforcing its position as an attractive investment alternative for investors seeking exposure to the gold market. Overall, these findings highlight the varied performance characteristics among Gold ETFs in India. In light of these conclusions, investing in gold ETFs has a number of benefits over buying actual gold. Without requiring actual gold holdings, they provide investors a practical and affordable way to engage in the bullion market. Gold ETFs provide flexibility in buying and selling while also improving market efficiency and liquidity. Additionally, the ability to trade on stock exchanges, transparency, and diversification benefits make Gold ETFs a desirable choice for investors looking to gain exposure to gold. The analysis of Gold ETF performance in India highlights the importance of these useful investment tools. They provide investors with a convenient and effective way to participate in the gold market while reducing the risks involved with holding actual gold. In light of these performance characteristics and important points covered in this article, gold exchange-traded funds (ETFs) are a strong choice for investors wishing to diversify their holdings and take advantage of the possible gains from gold investing in the Indian financial market.

7. REFERENCES

DR.P.VIDHYAPRIYA, D., & DR.M.MOHANASUNDARI, D. (2011, October 1). A Study on The Performance of Gold ETF in India. *Indian Journal of Applied Research*, *4*(8), 414–417. https://doi.org/10.15373/2249555x/august2014/105

Jayanthi, M., S. Malathy, and T. Radhulya. "A study on performance of Gold ETF Companies in India." International Research Journal of Business and Management–IRJBM 6 (2013): 97-102.

Panchal, N. (2021, June 30). A STUDY ON DYNAMIC RELATIONSHIP BETWEEN GOLD PRICE AND STOCK MARKET PRICE IN INDIA. *Towards Excellence*, 341–353. https://doi.org/10.37867/te130228

M, N., & Marisetty, N. (2023). A Study on Various Factors Impact on the Gold Price in India. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4587897

Gurbaxani, A., Thakkar, J., Pathak, S., Mathur, A., & Raees, S. (2023, May 8). Examining factors influencing investment in Digital Gold and Gold ETF using the PCA technique. *Investment Management and Financial Innovations*, *20*(2), 160–170. https://doi.org/10.21511/imfi.20(2).2023.14

Naveen, K. R. (2016, July 28). Gold ETFs vs. Equity ETFs: Comparative Analysis of their Performance. *International Journal of Social Sciences and Management*, *3*(3), 222–227. https://doi.org/10.3126/ijssm.v3i3.15265

Wachasundar, S. L., & Gidwani, J. CRITICAL EVALUATION OF SELECTED GOLD EXCHANGE TRADED FUNDS WITH RESPECT TO BENCHMARK INDICES. 10.47191/jefms/v5-i4-14, Impact Factor: 6.274

Selvan, S., & Ramraj, G. (2020). A Study on Performance of Gold ETF in India During COVID-19. ISSN No. 0976-0822

Goyal, A., & Joshi, A. (2011). Performance appraisal of gold ETFS in India. *Journal of elixir finance*, *32*, 2057-2060.

Nargunam, R., & Anuradha, N. (2017, August 25). Market efficiency of gold exchange-traded funds in India. *Financial Innovation*, *3*(1). https://doi.org/10.1186/s40854-017-0064-y

Garg, D. S. (2022). IMPACT OF COVID 19 ON PERFORMANCE OF GOLD ETFS IN INDIA. *International Journal of Research in Commerce and Management Studies*, *04*(05), 01–09. https://doi.org/10.38193/ijrcms.2022.4501

Partap Singh (2013), Gold Prices in India: Study of Trends and Patterns, International Journal of Innovations in Engineering and Technology, Vol i2, Issue i4, pp i345-351.

Verma, R., & Dhiman, D. (2020, May 16). A causal study on gold, SENSEX, and gold exchange traded funds. *Gold Bulletin*, *53*(2), 121–128. https://doi.org/10.1007/s13404-020-00280-3

Patel, S. A. (2013). Causal Relationship Between Stock Market Indices and Gold Price: Evidence from India. *IUP Journal of Applied Finance*, *19*(1).

Michael, J. Naylor et al (2011), Abnormal Returns in Gold and Silver Exchange Traded Funds, Journal of Indexing, Vol. 2(2),

Pullen, T., Benson, K. L., & Faff, R. W. (2011). A Comparative Analysis of the Investment Characteristics of Alternative Gold Assets. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1928591

Jalpa Thakkar et al (2013), "An Empirical Study on Gold Investment Rage among the Professionals" – A Comparative Analysis of Gold ETF, e-Gold and Gold Funds, ASM's International E-Journal of Ongoing Research in Management and IT, http://www.asmedu.org/uploadfiles/image/fi le/pdf/INCON13-FIN-017.pdf

Prashanta Athma and Mamatha B. (2012), ETFs Vs Index Funds: Growth and Progress, Arth Prabhand: A Journal of Economics and Management, Vol 1 (4), pp. 54-65

O'connell, R. (2007). Gold Exchange Traded Funds. *The Journal of Beta Investment Strategies*, *2007*(1), 129-135.

Vipin Kumar Aggarwal et al. (2013). Gold vs. Gold ETFs: Evidences from India, International Journal of Scientific Research and Management, IJSRM volume 2 issue 4 April 2013, pp 758-762, [www.ijsrm.in] (e): 2321-3418

Prabhdeep Kaur and Jaspal Singh, 2019, "Price Formation in Indian Gold Market: Analyzing the role of Gold Exchange Traded Funds (ETFs) against Spot and Futures Market", IIMB Management Review, https://www.sciencedirect.com/science/articl e/pii/S097038961730085X

Madhavi Eswara, 2015, "An Empirical Study on Performance of Gold ETFs in India - Post Crash Period", Research Journal of Finance and Accounting www.iiste.org ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) Vol.6, No.13, 2015, pp 75-83, https://pdfs.semanticscholar.org/d886/d631c 5770330730c5da0264498384a5a41d8.pdf

Nedeljkovic, V. (2005). The Impact of ETFs on the Gold Market. Retrieved March 20, 2014, from lbma: http://www.lbma.org.uk/assets/6c_nedeljkovic_lbma2005.pdf

Pullen, T., Benson, K. L., & Faff, R. W. (2011). A Comparative Analysis of the Investment Characteristics of Alternative Gold Assets. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1928591

Mukul, M. K., Kumar, V., & Ray, S. (2012). Gold ETF performance: A comparative analysis of monthly returns. *The IUP Journal of Financial Risk Management*, *9*(2), 59-63.

Jensen, M. C. (2002). The Performance of Mutual Funds in the Period 1945-1964. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.244153

Sharpe, W. F. (1966, January). Mutual Fund Performance. *The Journal of Business*, *39*(S1), 119. https://doi.org/10.1086/294846

Glode, V. (2011, March). Why mutual funds "underperform"☆. *Journal of Financial Economics*, *99*(3), 546–559. https://doi.org/10.1016/j.jfineco.2010.10.008

Grinblatt, M., & Titman, S. (1994, September). A Study of Monthly Mutual Fund Returns and Performance Evaluation Techniques. *The Journal of Financial and Quantitative Analysis*, *29*(3), 419. https://doi.org/10.2307/2331338

Sorros, J. N. (2003, October). Return and risk analysis: a case study in equity mutual funds operating in the Greek financial market. *Managerial Finance*, *29*(9), 21–28. https://doi.org/10.1108/03074350310768454