CHAPTER-II
REVIEW OF LITERATURE

Review of literature discusses the research work being done on the issues relating to gold exchange traded funds. To understand the gold exchange traded funds an attempt is made to review previous studies, which are relevant to the study. For this purpose journals and articles written on Exchange Traded Funds are being studied. Reviews of previous studies can be grouped into the following two major heads.

1. Performance Evaluation of GETFs

Solt and Swanson (1981) observed the importance of including gold and silver in a risk return framework and noted that the returns from silver show a low correlation to the market. They thus conclude that gold and silver have a speculative rather than investment value.

Stein and David (1999) introduced tracking error as an integral aspect of portfolio management. The research study explains tracking error in more depth so as to help investors understand the concept and establish their performance expectations.

Adrangi (2002) in his study investigated the relationship between gold and silver in the context of the Fisherian hypothesis and the proxy hypothesis of Fama. Their study showed an insignificant relationship between these precious metals’ Gold prices are positively correlated with expected inflation. These findings indicate that investing in gold and silver may be a reliable hedge against inflation in the short and long-run. Their study also found strong evidence to support the Fisherian hypothesis that real gold and silver returns are not adversely affected by inflation.

Nedeljkovic (2005)\(^4\) described that gold ETFs, compared to some other structured products, are very simple structures. He further, described that there is no credit risk and investment in gold ETFs and it is accessible and simple. Gold ETFs are listed on a stock exchange and quoted in local currency. The other considerable characteristics of gold ETFs are their cost effectiveness, security and high liquidity.

Jong and Rhee (2008)\(^5\) found that ETFs in general provide abnormal risk adjusted returns based on Fama and French 3 factor model exceeds transaction costs. They do not however distinguish commodity ETFs from other ETFs.

Buyuksahin, Haigh and Robe (2008)\(^6\) examined the S&P Goldman Sachs Commodities Index (S&P GCSI) weekly return data and revealed no correlation between commodity and equity returns, with commodity returns being lower and no sustained pricing relationship over long run. No evidence was found that an increase in co-movements between equities and commodities during a period of extreme returns.

Tongia and Chugani (2010)\(^7\) analysed that since the launch of gold ETFs in early 2007, it has emerged as a strong asset class, generating more than 27% returns (CAGR) against the sensex return of just about 4% CAGR during the same period. In the month of May 2010 alone, gold ETFs clocked about 8.7% gains. Over the time ETFs has strengthened its role as a hedge against inflation as an equity markets, as sensex has declined by about 5.6% during the same period.


\(^7\) Tongia and Bakul Chugani, “Gold ETFs: Craze for safety added to popularity”, (Online) Available at http://economictimes.indiatimes.com/markets/bullion/gold-etfs-craze-for-safety-adds-to-popularity/articleshow/6005498.cms.
Harjot (2011)\textsuperscript{8} in his article stated that gold, as an investment avenues, has given 122.09 percent returns in last 5 years and gold prices are expected to rise moderately in mid and long term. Hence, it would be good diversification strategy to have gold in your portfolio to hedge in different times. He also discussed that holding gold in physical form attracts huge cost in the form of storing and making charges. In order to overcome these, investors can opt for innovative products such as gold mutual fund and e-gold. In this paper, he brought out the difference between gold ETFs and e-gold and also he concluded that investing in e-gold is more cost-effective as compared to gold ETFs and spot gold.

Bhatia (2011)\textsuperscript{9} stated that gold ETFs which were introduced in the year 2007 were open-ended schemes, which invest in standard gold billion (0.995 purity). Gold ETF investment nearly 90-100\% of the funds in bullion and 0-10\% in money-market instruments. The objective is to offer returns that mirror the returns from the domestic price of gold.

Rajesh Naidu (2011)\textsuperscript{10} opined that the impressive return from gold ETFs is because in India gold is considered as an insurance against financial difficulties. Further, in times of uncertainty, gold is considered to be a prudent investment option.

Naylor, Wongchoti and Gianotti (2011)\textsuperscript{11} examined fundamental behaviour applicable to physical gold and silver returns also apply to the prices/returns of gold and silver exchange traded fund. It was found that, their price movements did not follow a random walk. They showed that such as inefficiency which was not exploitable on physical gold and silver in the past now provided an opportunity for abnormal returns through a simple filter trading rule.


Athma, Prashanta and Suchitra. K (2011)\textsuperscript{12} conducted a study which constitutes to fill the research gap with the objectives to focus on the gold ETFs as strong asset class. The second objective is to stress upon the inclusions of gold ETFs in a portfolio for risk diversification and thirdly, to assist the investors in the selection of the best gold ETFs option and its tax implications. The findings revealed that gold prices are less volatile compared to the equities market which instilled confidence in the minds of investors to process gold proving it to be a strong asset class. Inclusions of gold ETFs in a portfolio would diversify the portfolio risk.

Ivanov (2011)\textsuperscript{13} examines the commodity ETFs, namely gold, silver and oil ETFs and their relationship with their respective futures. They use the intra-day data and find that the gold, silver and oil ETFs closely track the performance of the underlying assets. He finds that the gold and silver ETFs have played an important role in the price discovery, while the futures have played an important role in the oil market.

Pilon, Plevan and Zweig (2011)\textsuperscript{14} postulated that the investors move away from stocks and moved towards gold which reflects the risk aversion that has gripped the markets in fit and starts in recent years. Stock markets are expected to underperform because of the overhang of debt in the advanced economies and investors perceive that gold would act as a natural hedge against decline in other assets including the US dollar.

Prasanna (2012)\textsuperscript{15} has studied the performance of exchange–traded funds in India. This research paper examines the characteristics and growth pattern of all the 82 exchange traded

schemes floated and traded on Indian stock markets and evaluates their performance using Date Envelopment Analysis (DEA). On an average, ETFs grew at 37% annually during the period 2006-2011 in India. These funds consistently outperformed the market index and generated higher returns. ETFs generated excess return of 3% p.a as against CNX NIFTY, which is the Indian equity market and attracted large investments in the post financial crisis years.

Ibrahim (2012)\(^\text{16}\) had the objectives of examining the relationship between gold and stock price returns in Malaysia and the period of their study was August 1, 2001 to March 31, 2010. The findings of the study indicated that there exists a significant positive but low correlation between gold and once-lagged stock returns. Consecutive negative market returns do not seem to intensify the co-movement between gold and stock markets as normally documented among national stock markets in terms of financial turbulence. Evidence suggests that the gold market surges when faced with consecutive market declines.

Mukul et al (2012)\(^\text{17}\) in their research concluded that gold investment gave a better monthly return as compared to a diversified equity fund. The study also supports the fact that gold has a negative correlation with equity investment and can act as a perfect instrument for hedging equity investment risk.

Jain (2012)\(^\text{18}\) reported that there is a consistent overall growth of AUM in ETF. So, this can be construed that there is a demand of ETF in India and people have accepted ETFs as one of the most important investment destinations. During the period 2008-09, there was a downfall in the AUM for the ETF-OTH. This is the time when the market faced the Slump during the


subprime crisis, and the Global and Indian market saw an unprecedented fall. However, there is a fabulous growth in the GOLD ETFs. Due to firming of the Gold prices, this index has given phenomenal return during the period. This justifies the interest among the investor community for the GOLD ETF.

**Jerold and Kalyanaraman (2012)**\(^{19}\) in their article mentioned that the investors demand for gold has been increasing amid global economic and political uncertainty. There are several options for investors interested in using gold as part of a short-or long-term investment strategy. As gold prices can be quite volatile, investment in gold can be carried out through ETF’s in instalments through systematic investment plan. Hence 2011 proved that gold and gold ETF’s were the best investment options. The gold ETF schemes returns had to be analysed periodically to achieve the investment objective.

**Mukul, Vikrant Kumar and Ray (2012)**\(^{20}\) revealed that Gold investment has been a very important aspect for ages across the globe. This paper attempts to analyze the performance of gold Exchange-Traded Fund (ETF) with respect to risk and return against the diversified equity fund and market portfolio. The study also examines the role of gold in hedging equity investment risk. The study is based on data for the period from January 2010 to August 2011. The analysis shows that gold ETF has given good return in comparison to a diversified equity fund during the study period.

**Sindhu (2013)**\(^{21}\) studies and analyses the impact of factors like exchange rate of US dollar with INR, crude oil prices, repo rate and inflation rate individually on gold prices. There

---


exists an inverse relation between the US$ and gold prices. The crude oil prices have an
impact on the gold prices. Gold prices and repo rate are interdependent. Gold prices and
inflation rates are also dependent and also positively correlated.

Narend and Thenmozhi (2013)\textsuperscript{22} in their article concluded that Pricing Deviation is
significant for gold ETFs listed in US and India but Tracking Error to be minimal and not
significant for both the US listed and Indian gold ETFs. The analysis showed that there is
ample evidence to suggest that unidirectional causality exists between US listed gold ETFs
and spot prices of gold and it is the ETFs that are playing the price discovery role in US
market. Whereas, the analysis that showed that bidirectional causality exists between Indian
gold ETFs and MCX spot prices of gold. The variance decomposition analysis showed
information share of US listed gold ETFs is around 45% while it is only around 1.3% for
Indian gold ETFs and most of the variance is explained by the spot prices of gold in India,
particularly because of the high volume of trade in spot gold market.

Jayanthi, Malathy and Radhulya (2013)\textsuperscript{23} in their article concluded that Gold ETFs offer
investors a convenient and secured way of investment providing a means to diversify. But at
the same time, the research indicated that many of the gold ETFs currently available in the
Indian market exhibit a large deviation from actual gold returns. They also remarked that this
problem is more pronounced in India than in developed markets. In other words, as gold
prices rise or fall, the gold ETF value should also rise or fall to that extent. However, very
often, the net asset value of the gold ETF gives a skewed picture. Hence, then pointed out that
Gold ETFs turn out to be a good investment option for investors to hedge their assets against
the uncertain global market scenario.

\textsuperscript{22} S.Nareend and M. Thenmozhi, “Performance and Price Discovery of Gold Exchange Traded Funds”,

\textsuperscript{23} Dr. M. Jayanthi, Ms. S.Malathy, Ms. T. Radhulya, “A Study on Performance of Gold ETF Companies in
Sinha and Dutta (2013)\textsuperscript{24} in their article concluded that the consistency of the scheme of Goldman Sachs Gold exchange traded fund in generating better performance was dependent on the lower tracking error. They also pointed out that Goldman Sachs gold exchange traded fund was directly tradable at the prevailing market price of gold, so the investors needed to equip themselves of the various prevailing market conditions which had a direct relation on the fluctuations of the scheme.

Singh and Nadda (2013)\textsuperscript{25} in their article concluded that the risk involved in the Gold was less than 1/3rd of the risk involved in the investment in Stock Market. Further they concluded that to invest in Gold, investors need not to time the market, understand the complex business environment and know about the various investment tools which are otherwise required in case they invest in the stock market. Gold ETF returns are directly correlated with the returns of Gold as such investors should invest in Gold ETF instead of Jewellery and other forms of gold.

2. Factors Influencing the GETFs

Chau and Woodward (1982)\textsuperscript{26} examined the effectiveness of gold as an inflation hedge for investors in six major industrial countries (Canada, Germany, Japan, Switzerland, UK and US). Gold has been an effective inflationary hedge only in the US for the investors with investment horizon extending over one and six months.

Years later, the study was extended by Beckmann and Czudaj (2013)\textsuperscript{27} as they analysed the ability of gold as inflation hedge across four economies (USA, the UK, the Euro Area, and


Japan) and found out that gold is able to partially hedge inflation in the long run specifically in the case of USA and UK. One of the key properties of gold is that it has negative correlation with the stock market. That is to say, when stock market goes down, gold investment goes up.

Lampinen (2007)\textsuperscript{28} examined the short- and long- run price determinants of the price of gold and found further evidence that gold can be regarded as a long- run hedge against the inflation and that the price of gold moves in line with the general price level. However, the movements in the normal price of gold are dominated by short- run influences and that the long run relationship has impact at any given time.

Fisher (2008)\textsuperscript{29} in his article mentioned that Gold Exchange Traded Funds have made investing in the yellow metal very convenient and inexpensive. The study expressed that they offer a way of participating in the gold bullion market without the necessity of physical delivery of gold. The study listed out six reasons why gold ETFs are considered as the best way to invest in the gold. The reasons mentioned are wealth tax exemption, income tax benefit, investment in small denominations, hedging convenience and better holding of ETFs as compared to physical gold holdings.

Bloomenthal (2008)\textsuperscript{30} has pointed out that first gold ETFs was launched in March 2003 on the Australian stock exchange. In U.S. the gold ETF trading began on the New York stock exchange (NYSE) in 2004. These ETFs are traded under the symbol of “GLD”. Different people define and perceive GLDs differently. Some people perceive that they will own physical gold by investing in the share of gold ETFs. However, it is not the right observation.


The objective of GLDs is not to provide investors with the opportunity to own gold bullion by investing in the shares of gold ETF. Rather, gold ETFs are designed to track the price of gold.

According to Bang (2009) gold ETFs is basically an open-ended mutual fund that invests in standard gold bullion as its underlying asset. It is also known as paper gold. These instruments are listed on the stock exchanges and hence, can be bought and also just like buying and selling of shares.

Adibe and Fei (2009) investigated the relationship between gold prices and macroeconomic variable for United States of America. The study found the existence of relationship between the price movements of gold, real interest rates and the exchange rate, suggesting a close relationship between gold and the value of US dollar. Similarly, Batten (2010) conducted that gold volatility is mostly explained by monetary variables such as inflation, interest rate and growth rate in money supply while these studies relate to the developed economies.

Mondal (2010) suggested that investors should take exposure in gold by buying either physical gold, Gold exchange traded funds or even units of mutual funds, which invest in the stock of gold mining companies. He also added that due to the crisis in the European Union, most currencies have witnessed high volatility and unless world currencies reach some kind of equilibrium, price of gold would continue to go up. In the very short-term, there are

---

31 Bang. N. Gold ETFs Have Made Investing in the Yellow Metal more Convenient and Competitive, 2009. (Online)www.stockmarketreviews.com/extras/gold_etf_have_made_investing_in_the_yellow_metal_more_convenient_20091229_2144/
possibilities of a correction but gold, either in physical form or in mutual fund units, continues to be a very good investment tool.

Noblett and Jackie (2010) suggested that Gold ETFs have witnessed massive flows as institutions, advisers and individual investors look to gain exposure to the precious metal and with its hedge against currency volatility and inflation.

Sandhu H.S et al (2010) in their study attempted to identify and analyse various motivating factors that induce the investors to invest in gold. The study found that there are six major motivating factors providing the strategic role that gold plays in investors’ portfolio. “Hedge against risk and inflation” was by far the most important factor followed by “Traditionally preferred investment” and effective wealth preserver. Besides, “Future financial security” motivates investors to rely on the metal. Apart from the above mentioned factors, gold’s perception as ‘safe haven during uncertainties’ and high liquidity and marketability make it an important asset in the portfolio of investors.

Pandey (2010) forwarded the Gold ETFs by saving that the electronic form of buying, selling and storing gold is more convenient and price-effective than buying the metal in the physical form.

Matai (2011) in his article mentioned the different avenues available to investors to invest in gold like physical gold from jewelers/banks, gold ETFs, equity – based gold funds, e-gold and gold futures. Accordingly he concluded that whether gold ETF is good for investors or e-gold, will be determined by their investment amount, time frame and applicability of wealth tax.

Pullen, Benson and Faff (2011) examined the safe haven, hedging and diversifying properties of gold stocks, gold bullion, gold ETFs and gold mutual funds. They found that all of these tend to be diversifiers. Both gold bullion and gold ETFs showed extended for the property of safe haven but there was very little evidence of the safe haven characteristics in the case of gold mutual funds and gold stock and thus, the investors who were keen on securing safe haven features of gold, could not generally trust on gold mutual funds or gold stocks. Instead, they needed to take direct exposures in gold ETFs or bullion.

Goyal and Joshi (2011) observed that the trading of gold ETFs is quite different from the trading at NSE. The trading in gold ETFs is increasing over the time as the gold prices are regularly touching new high and the investors are investing in these ETFs for earning fair and sure profit in future, without taxes and without fear of theft. It is also evident from the study that the prices of ETFs have less variation than the index of NSE.

Athma (2011) has stated that gold ETF is an emerging option of the various investment alternatives available to the investor. The low volatility of gold prices as compared to equity market weakening of Indian Rupee against US Dollar and growing uncertainty about global economy resulted in the emergence of gold ETF as a strong asset class. Allocation of a small portion of investment in gold ETF would diversify the portfolio risk. The stabilization of expense ratio made the task of selection of the best gold ETF option easy. Inclusion of any gold ETF in the portfolio of assets would diversify the risk. Gold ETF also offers the benefits of lower incidence of tax. In spite of the merits of holding gold ETFs, the investment in the

---


same is low due to the low awareness among the investors and the sentimental attachment of the investors towards holding gold in the physical form.

**Pullen, Benson and Faff (2011)**\(^{42}\) examined the diversifying, hedging and safe haven properties of gold bullion, gold stocks, gold mutual funds and gold exchange traded funds (ETFs). First, with regard to gold bullion, a clear and strong hedging role over a mere diversifying capability is documented. Second, the results highlight that gold stock, gold mutual funds and gold ETFs tend to be diversifiers. Third, both gold bullion and gold ETFs show support for the safe haven property. However, gold stock and gold mutual funds display very little evidence of the safe haven characteristics. Consequently, investors who are keen on securing safe haven features of gold investment cannot generally rely on gold stock or mutual funds. Instead, they need to take positions directly in bullion or gold ETFs.

**Walawakar (2011)**\(^{43}\) states that gold ETF invests in physical gold and endeavours to track the price of the gold as closely as possible subject to tracking error. The ETF route save the investors form worries related to safekeeping of gold, the quality of gold and further allows them to buy and sell gold on stock exchanges at the wholesale price of gold with good liquidity. It is akin to buying any other share or security on a stock exchange and there is no need to take delivery of physical gold. The product turns out to be a success with 10 fund houses launching gold ETFs. But it did not make it a case for convenient investing. A demat account is required to invest in a gold ETF and investors have to transact on their own. Fund houses do not offer tools such as systemic investment plan (SIP) and systemic transfer plan (STP) for investing in gold.


\(^{43}\) Nikhil Walawalkar, Economic Times Bureau Apr 12, 2011, [online] Available at Articles. Economictimes.Indiatimes.com /29410042_1_physical-gold.
Kim (2011)\textsuperscript{44} stated that just like any commodity the price of gold depends on the dynamics of its demand and supply. The special feature with regard to gold is that the price of gold is determined not only by its consumption demand but also based on its holdings. From a long time in the past, gold has been held by individuals and central banks as a reserve and the price of gold is more influenced by the demand and change in gold reserves rather than the supply from gold mines.

Sarkar (2012)\textsuperscript{45} in his article concluded that gold has always been considered as a haven investment with least risk. Further, during the turbulent financial market across the world and debt default woes of even the world’s leading economies (like U.S and Japan), gold has emerged as the most remunerative as well as the safest bet in India or even across the world. With such a sizzling backdrop, GETFs are really glittering like gold.

Subramanian and Mohan (2012)\textsuperscript{46} in their paper discussed at a higher level about the benefits of e-gold in the Indian market with an intent to educate students, investors and keep them updated about the level of innovation happening in the market and how technology is being effectively used. They also remarked that since gold is deeply embedded in the Indian society as a status symbol and often displayed as a heritage and traditional values, for the investor to get a statement of account in the same manner will be a unique achievement. Accordingly, such new products may become part of portfolio wealth management services and hence it is definitely a niche area for students and investors to consider.

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{46} Suganth Subramaniam and Dr. K. Mohan, “E-Gold as an Effective and Innovative Investment Option; an Analysis”, CPMR-IJT, Vol. 2, No. 1, June’ 2012.
\end{itemize}
\end{footnotesize}
National Spot Exchange (2012)\textsuperscript{47} in its publication discussed that among asset classes, gold is considered the most robust and in the current scenario, the investors in gold have different options to hold gold in electronic forms which is considered as the safest option. In view of comparison between the forms of gold investment based on returns, they concluded that e-gold is most promising forms of investment in gold as compared to gold ETFs or physical gold. Investing in gold through e-gold provides a smart way of taking a portfolio exposure to gold as it closely endeavours to mimic the returns of gold.

Sahni and Kukreti (2012)\textsuperscript{48} in their article mentioned that gold is one of the investment products which had given phenomenal returns over the recent years and investor has various options like investing in jewellery, investing in gold coins, investing in gold bars, investing in future market, investing in gold saving funds and investing in gold ETFs. According to them, gold ETFs are good investment options but one needs to have a demat account to buy them. This paper studies the various options available to an investor to earn a high rate of return by investing in gold. In order to arrive at a correct decision three options were studied to know their returns. F-test had been used to prove the hypothesis. The analysis of the data clearly proves the fact that an investor can select any of the three options i.e., spot, future or ETFs but the return to an investor is the same.

Ulyadi and Anwar (2012)\textsuperscript{49} stated that based on previous research studies it can be concluded that gold is a good portfolio diversifier, a hedge against inflation and safe investment destination during volatile stock market conditions. As an investment instrument,


stocks are exposed to macroeconomic risks and global stock market risks. The researchers conducted a comparison between the stock investment and gold investment by using the probit econometric model from 1997 to 2011. The first result obtained from the model showed that gold investment was more advantageous than the stock investment.

**Sharma and Agarwal (2012)**\(^{50}\) in their study examined the relationship between gold prices and real GDPs of the world’s largest gold-holding economies, which include the United States, the United Kingdom, France, Germany, Italy, Brazil, Japan, Europe and Canada, for the 16-year period from December 1995 to June 2011. The authors calculated the multiple correlation coefficient and coefficient of determination to study the relationship. The multiple correlation co-efficient measures the relationship between the gold price and GDP based on the regression equation, while the co-efficient of determination indicates the percentage of the variation in gold prices that can be explained and accounted for the GDPs of the world’s largest gold-holding economies. The authors preferred multiple regression analysis to study the effect of nine economies’ GDPs on the movement of gold price. Results imply that the GDPs of seven out of nine countries when used together best predict the movement in the gold price. They also find that when individual GDPs are regressed with gold prices, the gold price is least correlated with Italy’s GDP but highly correlated with Brazil’s GDP. The gold price is only moderately correlated with the US GDP even though the US has the world’s highest gold holdings.

**Trivedi and Bahera (2012)**\(^{51}\) in India, found the existence of a long run relationship between gold prices and independent variables namely, real GDP, interest rate, real effective exchange rate, equity prices and world gold prices.

---


Personal FN (2013)\textsuperscript{52} in their research publication suggested that one should consider his investment time horizon and accordingly allocate 10\% to 15\% of his total portfolio towards gold. According to them gold is not an instrument to make quick money but a solid long term asset and hence one should ideally invest in gold with a longer investment horizon. They discussed the merits of gold ETFs and gold savings funds and made a conclusion for holding gold vide these two investment options irrespective of one’s appetite for risk whether risk averse or risk tolerant, one must hold exposure to gold in their portfolio.

Saleem and Khan (2013)\textsuperscript{53} in their study “The Overview of Gold ETFs and its Various Prospective Features” has traced the emergence and history of gold ETFs in India and also explained the working mechanism of this fund along with portfolio, risk diversification and tax implementation of gold ETFs fund in India. This paper also made a comparative study of gold ETFs fund in India. This study also made a comparative analysis of gold ETFs versus physical gold and it also emphasized that the gold ETFs as a strong and attractive investment option for investors.

Baur (2013)\textsuperscript{54} showed that gold ETFs were more liquid than underlying physical bars and coins and that this liquidity varied through time and dependent on the structure of ETFs. i.e. whether the ETF was physically-backed or synthetic. They observed that the introduction of ETFs was at least partially responsible for the strong increase of the price of gold between 2002 and 2011. They also claimed that the volatility of gold had been increased because of the ease of trading facilitated by gold ETFs.


Thakkar, Gogia and Manjunathan (2013)\textsuperscript{55} in their article give better understanding of investor’s attitude and awareness regarding gold investment decisions and show where currently physical gold’s position among the other gold investment instrument is. According to them, investors go through an information search and market analysis before making the gold investment decision. Research showed that gold is already known and valued by the people for its return and long tradition and all the respondents mostly have investment in gold or plan to buy more gold. Research also throws light on the lack of awareness about the new trends in gold investments alternatives i.e., gold ETF, e-gold and gold funds.

The review of literature reveals that previous studies don’t cover the perception and behaviour of GETF investors. The previous studies also don’t cover the problems faced by the GETF investors. The previous studies are mainly concerned with the performance evaluation of gold exchange traded funds. Hence, the study is undertaken to analyse the GETF investors’ behaviour as well as problems faced by the investors.