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AN EMPIRICAL STUDY ON COMPARATIVE PERFORMANCE OF GOLD ETFs AND CPSE ETF AS AGAINST CNX NIFTY50 INDEX

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ABSTRACT

Exchange Traded Funds (ETFs) are diversified mutual fund portfolios that trade like stocks on the stock exchange. As stock markets are highly volatile and stock picking is difficult for an investor, investing in an ETF is relatively safe. Gold products are considered a highly valuable mean of investment in present scenario of financial markets.

There are many alternatives to invest in gold like Gold Exchange Traded Funds, Gold Fund of Funds, e-gold, stocks of gold mining companies, gold futures, gold bars, gold coins, gold jewellery, etc. Amongst these, the Gold Exchange Traded Funds (Gold ETFs) have emerged as most successful source for investment in gold. In India, ETF segment got a boost in 2014, when the government decided to divest in Central Public Sector Enterprises (CPSEs) through the ETF route. CPSE ETF, a special mutual fund was launched to help the government disinvest in the public sector companies. It is important to diversify a portfolio across different asset classes, since all assets don't move in the same direction. Optimal diversification helps in reducing risk as well as creating wealth to an investor. This research paper is an attempt to examine the performance of Gold ETFs in relation to its benchmark, i.e. physical gold and performance of CPSE ETF with its market index, Nifty CPSE index. The study also attempts to compare the performance of Gold ETFs and CPSE ETF. The performance of these two ETFs is compared against broad market index, CNX Nifty50. The performance of Gold ETF, CPSE ETF, Gold, Nifty CPSE Index and CNX Nifty50 Index is gauged in terms of risk and return, and beta and alpha. Mutual fund performance evaluation tools are also deployed. The period of study is five years, January 2015 to December 2019. Monthly returns are arrived at by taking into consideration closing prices available on the website of National Stock Exchange. Closing prices of Gold ETFs, CPSE ETF, Nifty CPSE Index and CNX Nifty50 market index are been used. Gold prices from the bullion market are considered. It is concluded that Gold ETFs have generated more returns than CNX Nifty50 whereas CPSE ETF returns are lower than CNX Nifty50. CPSE ETF is riskier than Gold ETFs and CNX Nifty50 index. Gold ETFs are less risky than CNX Nifty50 index. There is a negative correlation between Gold ETFs and CPSE ETF. This proves that Gold ETFs are efficient risk diversifiers when introduced in a portfolio of investment.

Keywords: *Gold ETFs, CPSE ETF, Diversification, Risk-Return, Market Index*

JEL Codes: *G10, G11, G14, G15*

INTRODUCTION

Diversification assists in creating balance in an overall portfolio and may alleviate the potentially drastic highs and lows of a portfolio focused on only a few investments. This balance helps to keep individuals focused on investing for the long term. Exchange Traded Funds (ETFs) are diversified mutual fund portfolios that trade like stocks on the stock exchange. As stock markets are highly volatile and stock picking is difficult for an investor, investing in an ETF is relatively safe. Gold products are considered a highly valuable mean of investment in present scenario of financial markets.

There are many alternatives to invest in gold like Gold Exchange Traded Funds, Gold Fund of Funds, e-gold, stocks of gold mining companies, gold futures, gold bars, gold coins, gold jewellery, etc. Amongst these, the Gold Exchange Traded Funds

(Gold ETFs) have emerged as most successful source for investment in gold and ETFs industry has shown rapid growth. In India, ETF segment got a boost in 2014, when the government decided to divest in Central Public Sector Enterprises (CPSEs) through the ETF route. CPSE ETF, a special mutual fund was launched to help the government disinvest in the public sector companies. The ETF shall track the performance of the Nifty CPSE Index. Nifty CPSE Index is constructed in order to facilitate Government of India's initiative to disinvest some of its stake in selected CPSEs. It is important to diversify a portfolio across different asset classes, since all assets don't move in the same direction. Optimal diversification helps in reducing risk as well as creating wealth to an investor.

REVIEW OF LITERATURE

Snehal Bandivadekar and Saurabh Ghosh, 2003, BSE Sensex incorporates only the market effects; the reduction in volatility due to "future's effect" plays a significant role in the case of S&P CNX Nifty.

Gallagher and Segara, 2011, concluded that classical ETFs in Australia provide investors with returns commensurate with the underlying benchmark with lower tracking error relative to index managed funds. The variation between net asset value (NAV) and traded price for ETFs is small, and does not occur with high frequency.

Krishna Prasanna P, 2012, demonstrated that the ETFs have consistently outperformed the market index and have generated higher returns. The volatility of their returns was also found to be lesser than that of the returns of the benchmark index NIFTY in equity market. The study also found overseas fund of fund and Gold ETF as superior funds.

Goyal A and Joshi A, 2011, concluded that investors are investing in Gold ETFs for earning fair and sure profits in future. The prices of Gold ETFs have less variation than the index of NSE, hence investment in Gold ETFs is increasing over the time period. The investor confidence in Gold ETFs is increasing and therefore the future of Gold ETFs is bright in India.

Gayathri V. and Dhanabhakyam, 2014, exhibited the cointegration and casual relationship between the Gold price and the NSE Nifty. There is a uni-dimensional relationship between the selected variables. The change in the gold price also changes the stock market indicator, NSE Nifty.

Shefali Sinha and Mahua Dutta, 2013, concluded that the Goldman Sachs Gold exchange traded fund is consistent in generating better performance, which is dependent on its lower tracking error.

Hundal B. S. et al, 2013, examined the perception of retail investors towards purchase of gold. The study provide a strong evidence that despite hike in taxes and depreciating rupee, unless the consumers get suitable alternatives which meet their respective needs, people don't want to shift away from gold, rather they are treating gold as a safety buffer. Another major advantage for gold being preferred is that it has multiple characteristics which very few other assets have - high liquidity: both in terms of ease of en-cashing it or availing a gold loan from bank but also the resale value (very small deduction while re-selling); conventional value and cultural values it holds for the consumers.

Prashanta Athma and Suchitra K, 2014, The demat form of gold investment options viz. Gold Futures, Gold ETFs, Gold FoF and E-gold are better than the physical form of gold. An investor can make investment in any demat form of gold investment options as there is no significant differences in the return of the various demat form of gold investment options.

Vipin Kumar Aggarwal et al. (2013) demonstrated that the gold ETFs have lesser variability as compared to the physical gold and concluded that the performance of gold ETFs is better than the performance of physical gold.

Bhupendra Kumar, 2016, concluded that ETFs have grown tremendously during the last decade and have become a significant part of the equity market activity; hence, regulators are keeping a close watch on any potential impact of these products on financial stability and market volatility. In India, trading in ETFs has been quite limited relative to the U.S. and Europe. Only the 25% of ETFs are affect the total turnover of National Stock Exchange and Bombay Stock Exchange. Emerging market regulators have been appropriately cautious in not allowing complex ETFs. In countries such as India, trading in ETFs has been quite limited relative to the U.S. and Europe ETFs based on broad market

indexes with sufficient liquidity appear to be suitable products for retail customers. Local regulators in emerging markets have typically allowed only simple ETFs in the local market.

Martin Surya Mulyadi and Yunita Anwar, 2012, infers that the gold investment is quite safe for the investors and could be categorized as safe haven. This is also supported by the previous research that identified gold as a good portfolio diversifier and a hedge against stocks as well as a safe haven in extreme stock market conditions. When stock investors are in loss, gold return tends to increase. While gold return increases, it gives linear impact to the stock return.

Naveen Kumara R, 2016, concluded that Gold and Equity ETFs, both have failed to produce overwhelming returns, however, a lot of Equity ETFs have managed to provide extremely high returns for at least a couple of quarters contrary to that of their benchmark indices. One the other hand, most of the Gold ETFs have remained in the negative returns (loss) category for maximum of entire part of the three years period.

Prashanta Athma & Mrs. B. Mamatha, 2017, demonstrated that the popularity of Exchange Traded Funds has increased manifold attracting a lot of attention from both the investors and the market participants resulting in a continuous innovation in the Exchange Traded Funds. The introduction of Gold Exchange Traded Funds and growth in the prices of Gold has led to the increased performance of Exchange Traded Funds compared to Index Funds. Exchange Traded Funds can became best investment alternative if awareness is created among the investors.

STATEMENT OF THE PROBLEM

An exploration into the existing literature reveals that most of the research is carried on Gold ETFs in standalone or its performance is compared with Gold or/and with stock market indices but there is no research on Gold ETFs in comparison with other ETFs. Though total ETF industry is growing and becoming popular, there is nearly no research on other ETFs and more specifically on CPSE ETFs. Therefore, this study is an attempt undertaken to compare the performance of Gold ETFs and CPSE ETF against the market index, CNX Nifty50, to find out which of these two have performed better than the other in the given period of study.

NEED AND IMPORTANCE OF THE STUDY

Investment in gold has grown exponentially. According to the sources of Association of Mutual Funds in India (AMFI), the Assets under Management (AUM) for Gold ETFs has plummeted from Rs 4,434 crore in September 2018 to Rs 5,798.52 crore as in September 2019 (Murkute, 2019).

CPSE ETF (Central Public Sector Enterprises – Exchange Traded Fund) has become an important tool for furthering the government disinvestment program. The CPSE ETF creates an asset pool by transferring PSU shares into the ETF and then issues fractional units against the same. In the Union Budget 2019, the government announced an ambitious disinvestment target of Rs105,000cr and underlined that CPSE ETF will be among one of the routes to sell minority stakes in PSU companies (IIFL, 2019).

The purpose of this study is to compare and analyze the performance of Gold ETFs and CPSE ETF as against the broad market index, CNX Nifty50. The study is designed to facilitate investors in constructing an optimal and well diversified portfolio by reducing overall risk.

OBJECTIVES OF THE STUDY

- To compare the performance of Gold ETFs and CPSE ETF.
- To compare the performance of Gold ETFs and CPSE ETF as against broad market index, CNX Nifty50.

RESEARCH METHODOLOGY

This study is based on the secondary data. The data has been collected from various published sources, which include research articles, website of National Stock Exchange (NSE), relevant company websites and other relevant sources.

The study compares the performance of Gold ETFs and CPSE ETF. The study also compares the performance of these two ETFs against broad market index, CNX Nifty50. Simple statistical tools

like Average and Standard Deviation are used. Performance evaluation measures and risk ratios, Sharpe index, Treynor's ratio, Jensens's alpha and Beta are also deployed. 91-Day T-bills interest rate is taken as risk-free returns.

In India, the first CPSE ETF was issued by Reliance Nippon Life Asset Management Limited, on 28th March 2014. Hence, the period of the study is five years, January 2015 to December 2019. Monthly closing prices of Gold ETFs, CPSE ETF & Nifty50 index available on the website of National Stock exchange are considered. Gold prices from bullion market are also referred. Gold ETFs having Assets under Management (AUM) more than Rs.500 crores are studied. Based on the availability of the data two Gold ETFs are selected for this research, viz. UTI Gold ETF and HDFC Gold ETF. The study is limited only to the Indian mutual fund industry.

MODUS OPERANDI OF GOLD ETFs, CPSE ETF AND CNX NIFTY50 INDEX

GOLD ETF A Gold Exchange Traded Fund (ETF) is an exchange traded fund that aims to track the price of gold. Gold ETFs are units representing physical gold which may be in dematerialized form. These units are traded on the exchange like a single stock of any company. Gold ETF's are intended to offer investors a means of participating in the gold bullion market without the necessity of taking physical delivery of gold, and to buy and sell that participation through the trading of a security on a stock exchange (National Stock Exchange).

CPSE ETF Central Public Sector Enterprises (CPSE) ETF, which tracks the Nifty CPSE Index, is a concentrated portfolio of 10 stocks, Coal India, GAIL, ONGC, Indian Oil, Bharat Electronics, Oil India, PFC, REC, Container Corp and Engineers India, whose main aim is to help the Government of India (GOI) in disinvesting its stake in a few CPSEs via the ETF route. CPSE ETF, a special mutual fund was launched to help the government disinvest in the public sector companies. The ETF shall track the performance of the Nifty CPSE Index. Nifty CPSE Index is constructed in order to facilitate Government of India's initiative to disinvest some of its stake in selected CPSEs.

CNX NIFTY50 INDEX CNX stands for the Credit Rating Information Services of India Limited (CRISIL) and the National Stock Exchange of India (NSE). A stock index endorsed by Standard & Poor's and composed of 50 of the largest and most liquid stocks found on the National Stock Exchange (NSE) of India (Investopedia, 2015). It is commonly used to represent the market for benchmarking Indian investments. Similar to other major stock indexes like the S&P 500, companies must meet certain requirements in terms of market capitalization and liquidity before they can be considered for inclusion in the index, also known as "Nifty 50".
The CNX Nifty is a well diversified 50 stock index accounting for 23 sectors of the economy. It is used for a variety of purposes such as benchmarking fund portfolios, index based derivatives and index funds. CNX Nifty is owned and managed by India Index Services and Products Ltd. (IISL). IISL is India's first specialized company focused upon the index as a core product (National Stock Exchange).

EMPIRICAL RESULTS AND DISCUSSION

Returns and Risk

Table: 1 Comparative Returns of CNX Nifty50 Index, Nifty CPSE Index, Gold Prices, Gold ETFs & CPSE ETF for the period 2015-2019

Year	Returns %					
	CNX Nifty 50 Index	Gold Prices	Nifty CPSE Index	HDFC Gold ETF	UTI Gold ETF	CPSE ETF
2015	0.289	-0.42	1.7	-0.54	-0.55	-1.2
2016	0.184	-0.08	-0.8	0.84	1.004	1.44
2017	2.161	0.53	0.44	0.31	0.379	1.6
2018	0.435	0.58	2.32	0.54	0.639	-1.7
2019	0.983	1.644	0.83	1.777	1.846	-0

Source: Compiled from the data given in website of National Stock Exchange

Table:1 & Table:2 exhibit the results of the study in terms of the Return and Risk. The results show (Table:1) that in terms of returns in the year 2015, Nifty CPSE Index (1.695) has generated highest returns followed by CNX Nifty50 index. On the other hand, Gold ETFs & CPSE ETF has generated negative returns. In 2016, CPSE ETF (1.442) has given highest returns, followed by UTI Gold ETF (1.004), HDFC Gold ETF (0.840) and Nifty50 index (0.184). In 2017, CPSE ETF (1.602) has generated greater returns than Gold ETFs (0.310 & 0.379). In 2018, Gold ETFs (0.540 & 0.639) have generated positive returns where as CPSE ETF generated negative returns (-1.670). Gold ETFs have generated returns as equal as its benchmark, gold (0.580). CPSE ETF (-1.670) has underperformed than its market index, Nifty CPSE index (2.318). Gold ETFs have generated more returns than CNX Nifty50 index. In 2019, Gold ETFs (1.777 & 1.846) has generated more returns than its benchmark. CPSE ETF (-0.028) has generated negative returns.

Table: 2 Comparative Risk of CNX Nifty50 Index, Nifty CPSE Index, Gold Prices, Gold ETFs & CPSE ETF for the period 2015-2019

Year	Risk %					
	CNX Nifty50 Index	**Gold Prices**	**Nifty CPSE Index**	**HDFC Gold ETF**	**UTI Gold ETF**	**CPSE ETF**
2015	3.529	4.554	5.244	3.659	3.949	4.421
2016	4.927	4.735	5.113	4.452	4.57	5.841
2017	2.736	2.196	5.315	2.583	2.632	5.575
2018	4.673	2.785	5.03	2.679	2.608	4.004
2019	3.875	4.581	8.432	4.487	4.86	8.023

Source: Compiled from the data given in website of National Stock Exchange

The results show (Table: 2) that in terms of risk in the year 2015, CPSE ETF (4.421) is having high risk than Gold ETFs (3.659 & 3.949). CPSE ETF is less risky than is benchmark index, Nifty CPSE index. Gold ETFs have almost same risk level as of CNX Nifty50 index and physical gold. In 2016, CPSE ETF (5.841) is riskier than Gold ETFs (4.452 & 4.570), Nifty50 (4.927), Nifty CPSE index (5.113) and physical gold (4.735). In 2017 & 2018, CPSE ETF is riskier than Gold ETFs, gold & CNX Nifty50 index. In 2019, CPSE ETF (8.023) is having high risk than Gold ETFs (4.487 & 4.860), gold (4.581) and CNX Nifty50 (3.875). It is observed that (Fig: 1 & Fig: 3) Gold ETFs and CPSE ETF do not generate identical returns. During the years through 2017 to 2019, returns of Gold ETFs & CPSE ETF moved in opposite direction. Gold ETFs have generated more returns than CNX Nifty50 whereas CPSE ETF returns are lower than CNX Nifty50.

It is found (Fig: 2) that CPSE ETF is having high risk than Gold ETFs and CNX Nifty50 index. Gold ETFs are less risky than CNX Nifty50 index. Gold ETFs are less risky than CPSE ETF (Fig: 4).

It is also observed (Fig: 5) that Gold ETFs & Gold have generated almost identical returns. Gold ETFs has also outperformed its benchmark, whereas, risk factor of Gold ETFs & Gold is almost same level (Fig: 6).

It is observed (Fig: 7 & Fig: 8) that during the years 2016 & 2017 CPSE ETF has generated more returns than Nifty CPSE index with high risk level than its benchmark. In 2018 & 2019, CPSE ETF has generated less return when compared to its market index, Nifty CPSE.

Performance Evaluation

Table: 3 Sharpe Ratio, Treynor's Ratio & Jensen's Alpha of Gold ETFs & CPSE ETF

Year	Sharpe Ratio				
	Gold	**UTI Gold ETF**	**HDFC Gold ETF**	**Nifty CPSE Index**	**CPSE ETF**
2015	-0.78	-1.01	-1.08	0.72	-1.41
2016	-0.44	0.37	0.25	-0.4	0.55
2017	0.02	-0.18	-0.28	-0.6	0.67

2018	0.03	0.11	-0.02	1.22	-1.93
2019	0.92	1.02	1.05	0.17	-0.2

Year	Treynor's Ratio				
	Gold	**UTI Gold ETF**	**HDFC Gold ETF**	**Nifty CPSE Index**	**CPSE ETF**
2015	-21	-16.2	-17.5	13.1	-53.2
2016	-7.2	7.84	10.5	-16	-31.8
2017	0.17	-1.54	-2.27	-11	1.68
2018	0.31	1.17	-0.17	21.2	-4.01
2019	14.7	15.06	15.7	4.93	247

Year	Jensen's Alpha		
	UTI Gold ETF	**HDFC Gold ETF**	**CPSE ETF**
2015	-3.35	-23.34	-26.8
2016	11.1	6.5	5.43
2017	-1.81	-2.655	12.1
2018	0.76	-0.47	-16.4
2019	0.47	1.094	-5.28

Source: Compiled from the data given in website of National Stock Exchange

Table:3 exhibits Sharpe ratios, Treynor ratios and Jensen's alpha of Gold ETFs, physical gold, CPSE ETF and Nifty CPSE Index for the period 2015 to 2019. 91-Day T-bills rate is considered as risk free rate.

It is observed that (Fig: 9 & Fig: 10) through the years 2015 to 2019, risk-adjusted performance of Gold ETFs is almost similar and very close to the performance of benchmark. Performance of Gold ETFs is marginally higher than physical gold. In the year 2015, Sharpe and Treynor ratios of these funds are in negative, which indicate that the risk free security has outperformed Gold ETFs and physical gold. In 2017, risk adjusted performance of gold and gold ETFs is almost identical and equal to risk free returns. During the years 2016, 2018 & 2019, Gold ETFs have outperformed gold and also Gold ETFs have generated greater risk adjusted returns than risk free rate of returns. As observed (Fig: 12 & Fig: 13), risk adjusted returns of Nifty CPSE Index & CPSE ETF are moving in opposite direction.

Gold ETFs and CPSE ETF are passively managed funds. The fund manager of these funds tries to replicate the market (i.e. physical gold prices & Nifty CPSE Index respectively) as close as possible. Fund manager's aim is neither to generate alpha returns nor to outperform the market but to mirror the market. As seen in Table: 3 Jensen's alpha for Gold ETFs and CPSE ETF is in negative or less than zero and also in positive or more than zero for the given period. As observed (Fig: 14), in 2015 alpha of Gold ETFs and CPSE ETF is in negative, but CPSE ETF's alpha is in larger negative. In 2016, both ETFs have generated positive alpha returns, but Gold ETFs have generated greater positive alpha returns than CPSE ETF. In 2017, CPSE ETF has generated positive alpha returns but on the other hand Gold ETFs are in negative alpha. During the years 2018 and 2019, Gold ETFs have generated positive alpha returns but in contrary CPSE ETF have generated returns in deep negative. Due to tracking error these ETFs have less than zero alpha return and also due to risk free security has outperformed these two ETFs. A positive alpha of these ETFs signifies that these funds have outperformed their respective market indexes. It is worth noting that alpha returns of Gold ETFs and CPSE ETF are moving in opposite direction. It is also observed that CPSE ETF has generated both highest positive and highest negative alpha returns, which implies that these funds are riskier than Gold ETFs.

Table: 4 Beta Co-efficient of Gold ETFs & CPSE ETF

Year	Beta				
	Gold	UTI Gold ETF	HDFC Gold ETF	Nifty CPSE Index	CPSE ETF
2015	1	0.85	0.79	1	0.4
2016	1	0.74	0.37	1	-0.35
2017	1	1.06	1.09	1	-0.08
2018	1	0.88	0.97	1	-0.49
2019	1	1.14	1.04	1	-0.02

Source: Compiled from the data given in website of National Stock Exchange

Table: 4 show the Beta Coefficient of Gold ETF schemes & CPSE ETF for the period 2015-2019.

As seen in Table: 4, Gold ETFs have positive beta, this signifies that Gold ETFs perform in the same direction as its benchmark, i.e. physical gold. If gold prices increases, Gold ETFs also increase in their performance and vice versa. With respect to CPSE ETF, almost all beta values are in negative, i.e., less than zero; it implies that performance of CPSE ETF move in the opposite direction to its market index Nifty CPSE Index. If the market index goes up, this security will decline. If the general market index goes down, this security increases in value. The figure: 11 suggest that beta values of the Gold ETFs are in positive, close to 1 and also greater than 1, indicating that they are in consensus in responding to the overall market index. On the other hand, CPSE ETF beta values are in negative, less than zero. This connotes that there is a negative correlation between Gold ETFs and CPSE ETF. This proves that Gold ETFs are efficient risk diversifiers when introduced in a portfolio of investment. Gold investment is quite safe for the investors and could be categorized as safe haven. This is also supported by the previous research that identified gold as a good portfolio diversifier and a hedge against stocks as well as a safe haven in extreme stock market conditions (Mulyadi MS and Anwar Y 2012).

FIGURES

Fig: 1

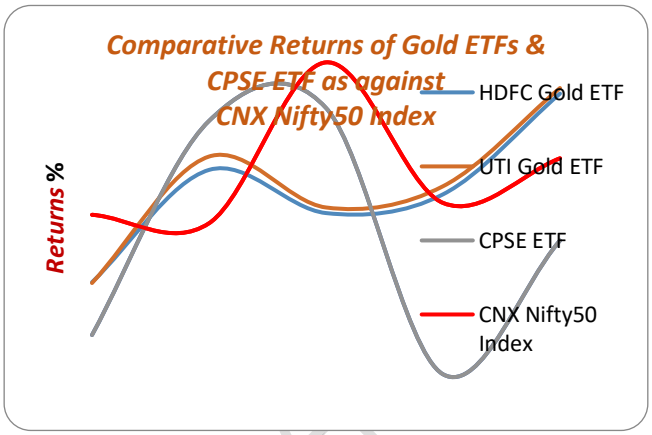

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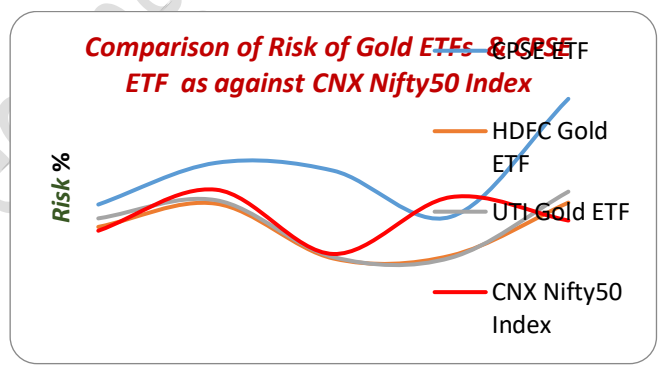
Fig: 2



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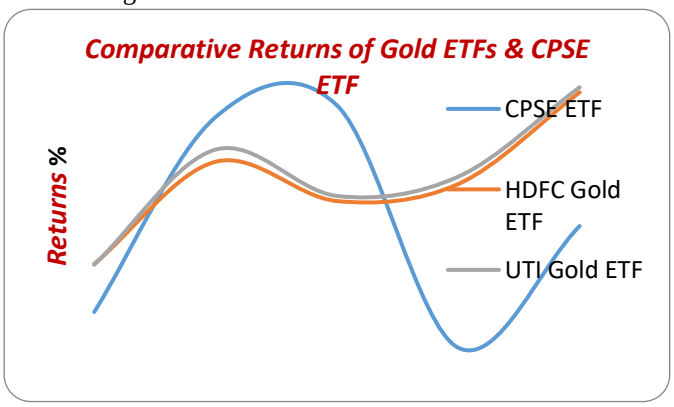

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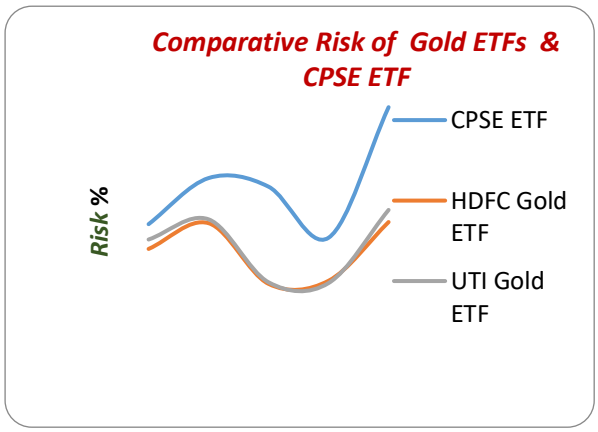

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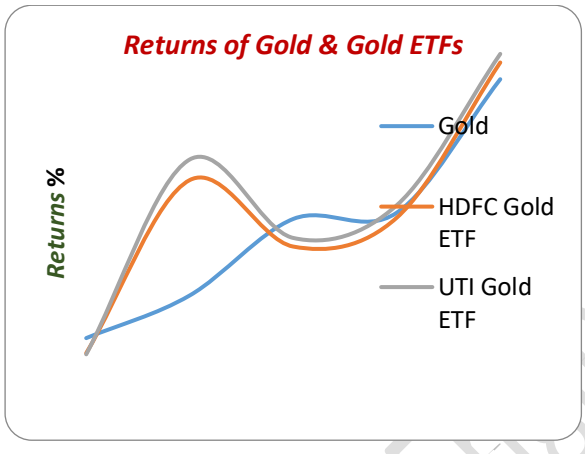

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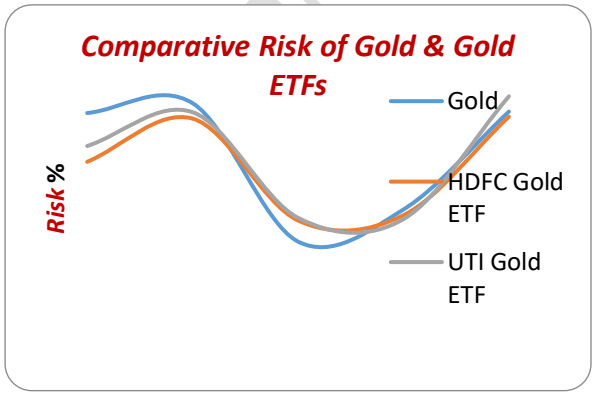
Fig: 6



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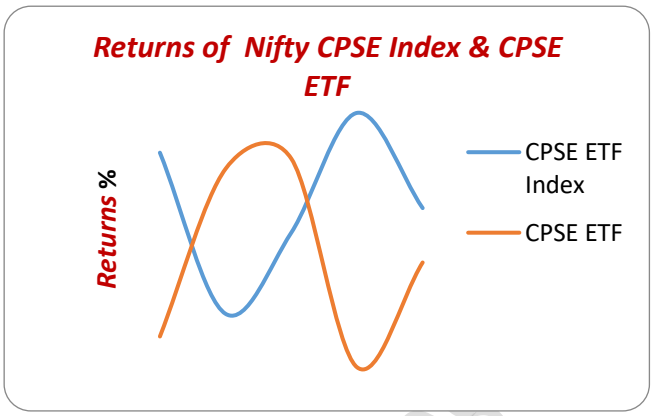

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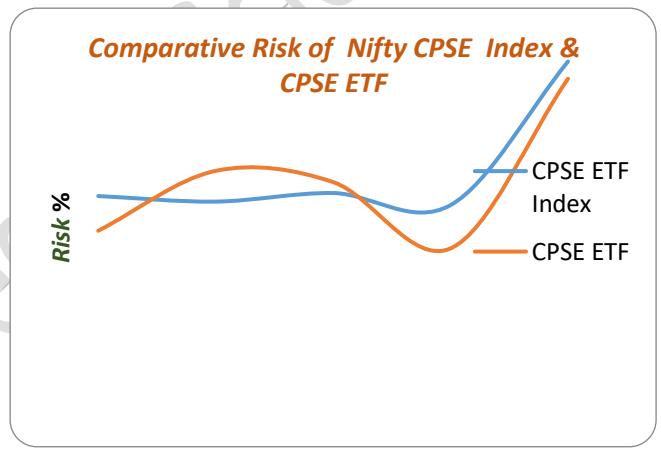

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Fig: 9

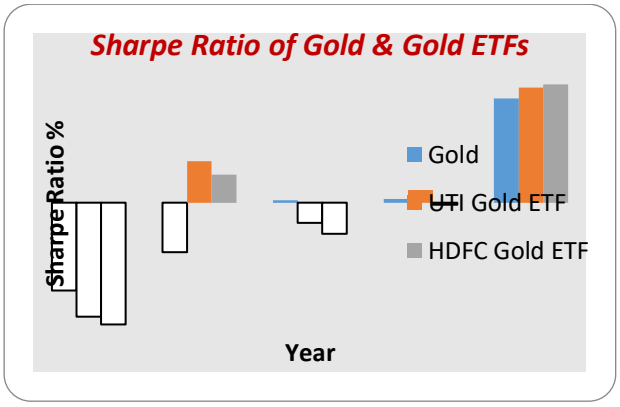

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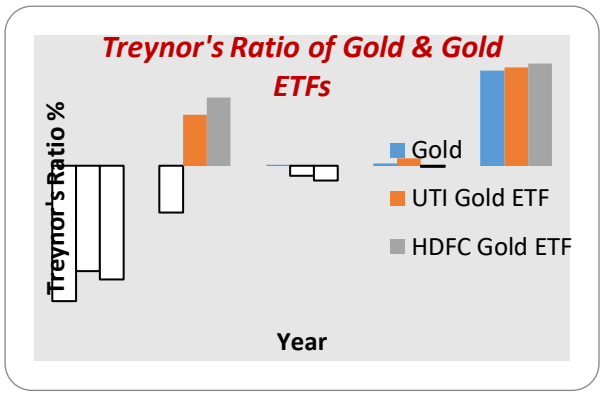
Fig: 10



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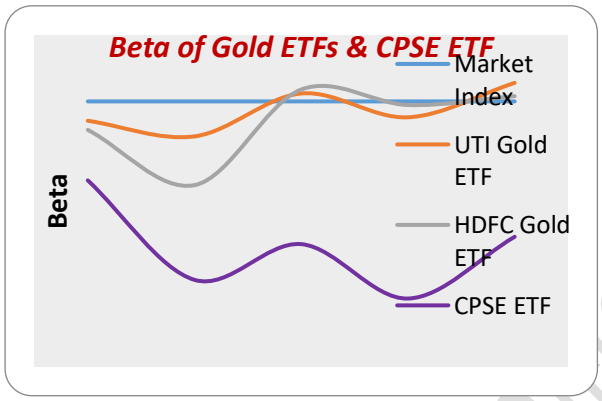

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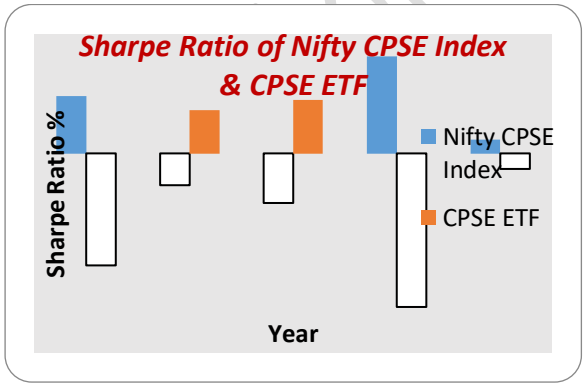
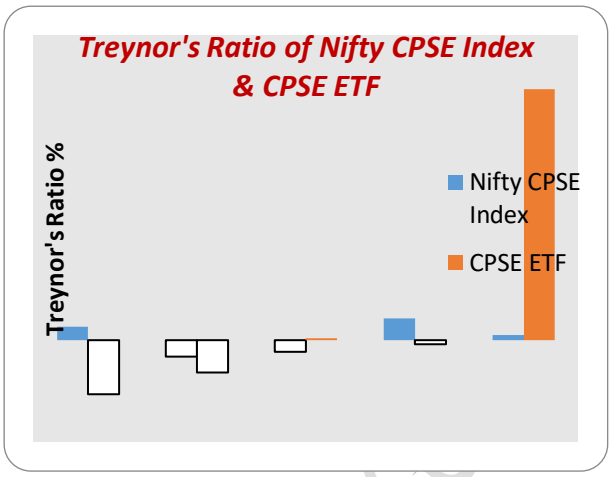
Fig: 12



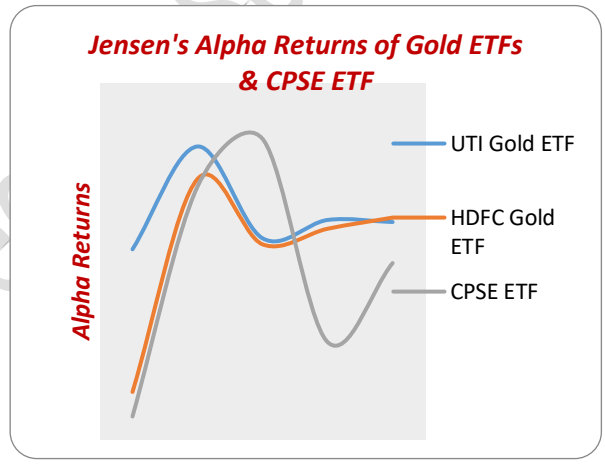
Source: Compiled from the data given in website of National Stock Exchange

Fig: 13



Source: Compiled from the data given in website of National Stock Exchange

Fig: 14



Source: Compiled from the data given in website of National Stock Exchange

FINDINGS

- Gold ETFs and CPSE ETF do not generate identical returns. Returns of Gold ETFs & CPSE ETF moved in opposite direction.
- Gold ETFs have generated more returns than CNX Nifty50 whereas CPSE ETF returns are lower than CNX Nifty50.
- CPSE ETF is having high risk than Gold ETFs and CNX Nifty50 index.
- Gold ETFs are less risky than CNX Nifty50 index. Gold ETFs are less risky than CPSE ETF.
- Gold ETFs & Gold have generated almost identical returns. Gold ETFs has also outperformed its benchmark, whereas, risk factor of Gold ETFs & Gold is almost at same level.

- Returns of CPSE ETF and Nifty CPSE Index move in opposite direction.
- Risk-adjusted performance of Gold ETFs is almost similar and very close to the performance of benchmark. Performance of Gold ETFs is marginally higher than physical gold.
- Gold ETFs have outperformed gold and also Gold ETFs have generated greater risk adjusted returns than risk free rate of returns.
- Risk adjusted returns of Nifty CPSE Index & CPSE ETF are moving in opposite direction.
- Alpha returns of Gold ETFs and CPSE ETF are moving in opposite direction. CPSE ETF has generated both highest positive and highest negative alpha returns, which implies that these funds are riskier than Gold ETFs.
- Gold ETFs have outperformed its market index, i.e. physical gold, as gold prices were increasing.
- CPSE ETF moves in the opposite direction to its market index Nifty CPSE Index.
- Gold ETFs are in consensus in responding to the overall market index.
- Gold ETFs and CPSE ETF are negatively correlated.

SUGGESTIONS

- As ETFs are gradually gaining popularity, there should be extended efforts from the mutual fund houses to increase the awareness among investors about ETFs existing in the market.
- Mutual Funds should offer such schemes which allocate assets in combination of different types of ETFs, so that investors can seek optimal diversification.
- There is less awareness about CPSE ETF among investors, so there should be extended efforts from mutual fund houses towards creating awareness about CPSE ETF.
- Investors should be cautious and understand the risks before investing in CPSE ETF. The fund has a concentrated portfolio of 10 stocks. Few stocks' performance or underperformance may impact the overall returns.
- Investors should allocate 5%-10% of funds in Gold ETFs in their portfolio of investment.

CONCLUSION

The study has compared the performance of Gold ETFs and CPSE ETF as against broad market index, CNX Nifty50 Index. The empirical results conclude that Gold ETFs and CPSE ETF do not generate identical returns. Returns of Gold ETFs & CPSE ETF moved in opposite direction. Gold ETFs have generated more returns than CNX Nifty50 whereas CPSE ETF returns are lower than CNX Nifty50. CPSE ETF is having high risk than Gold ETFs and CNX Nifty50 index. Gold ETFs are less risky than CNX Nifty50 index. Gold ETFs are less risky than CPSE ETF. Gold ETFs & Gold have generated almost identical returns. Gold ETFs has also outperformed its benchmark, whereas, risk factor of Gold ETFs & Gold is almost at same level. Returns of CPSE ETF and Nifty CPSE Index move in opposite direction. Risk-adjusted performance of Gold ETFs is almost similar and very close to the performance of benchmark. Performance of Gold ETFs is marginally higher than physical gold. Gold ETFs have outperformed gold and also Gold ETFs have generated greater risk adjusted returns than risk free rate of returns. Risk adjusted returns of Nifty CPSE Index & CPSE ETF are moving in opposite direction.

The study also concludes that alpha returns of Gold ETFs and CPSE ETF are moving in opposite direction. CPSE ETF has generated both highest positive and highest negative alpha returns, which implies that these funds are riskier than Gold ETFs. Gold ETFs have outperformed its market index, i.e. physical gold, as gold prices were increasing. CPSE ETF moves in the opposite direction to its market index Nifty CPSE Index. Gold ETFs are in consensus in responding to the overall market index. Gold ETFs and CPSE ETF are negatively correlated.

Gold ETFs have generated more returns than CNX Nifty50 whereas CPSE ETF returns are lower than CNX Nifty50. CPSE ETF is riskier than Gold ETFs and CNX Nifty50 index. Gold ETFs are less risky than CNX Nifty50 index. There is a negative correlation between Gold ETFs and CPSE ETF. This proves that Gold ETFs are efficient risk

diversifiers when introduced in a portfolio of investment.

SCOPE FOR FURTHER RESEARCH

This study has compared the performance of Gold ETF and CPSE ETF as against the market index, CNX Nifty50. Academic researchers can foray their studies into other ETFs. New studies can also be undertaken with respect to other world market indices, in conjunction with the performance of Gold ETFs and other gold-backed products.

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