"All That Glitters is Gold" – Performance of Gold Exchange Traded Funds – An Empirical Analysis

* *Dr. Kavita Chavali*

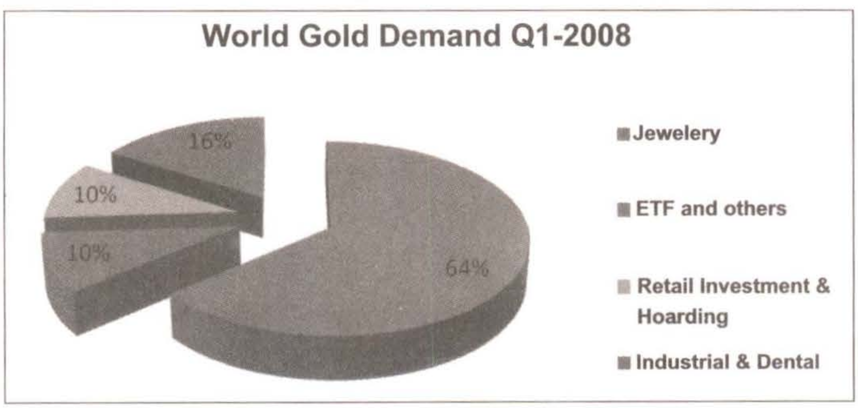
INTRODUCTION

A Gold Exchange Traded Fund (GETF) is a financial instrument like an open-ended mutual fund which mirrors the return of an index or a commodity. Its value depends on the price of gold and the price of one unit of GETF approximately reflects the price of one gram of gold. As the price of gold rises, the price of the GETF is also expected to rise by the same amount. Similarly, a fall in the price of gold will also be reflected by a drop in the price of the GETF. GETFs offer a means of participating in the gold bullion market to investors by buying and selling units on the Stock Exchanges, without physical delivery of gold. The units of GETF are purchased or sold on the stock market. GETF offers an innovative, cost-efficient and secure way to access the gold market. The process of obtaining a GETF involves a mutual fund house, which has a GETF.The mutual fund house appoints an Authorized Participant who initially buys the units of GETF from the mutual fund by exchanging actual pure gold for the units of GETF. These Authorized Participants facilitate secondary market trading through the GETF Units through the Stock Exchange, where investors can buy or sell gold units on payment, for quantities as small as one unit. The Authorized Participants (APs) are partners who ensure liquidity so that investors find ready buyers and sellers whenever they wish to transact. They also help in Market Making (providing 2-way quotes on the exchange) and educating investors of the benefits of investing. The underlying asset i.e. gold is held by a mutual fund house issuing such units either in a physical form or through a 'gold receipt' -giving right of ownership. Authorized participants can redeem the GETF Units from the mutual fund house.

GLOBAL SCENARIO

According to the World Gold Council, the World Global demand of gold (as in 2008) in the form of Jewelry constitutes 64 percent, Industrial and Dental demand constitutes 16 percent, Retail Investment & Hoarding (Bars and Coins) constitute 10 percent and ETFs and others constitute 10 percent of the total demand.

Figure 1: Representing the World Gold Demand as in 2008



Source: World Gold Council

'Street Tracks Gold Trust' is the first GETF marketed by 'State Street Global Markets' and sponsored by the World Gold Council. The Fund could make an investment of $550 million. UTI Mutual Fund in India has a tie-up with 'State Street Global Markets' as an investment advisor for inγesting in overseas market whenever such products are launched. A second GETF is the 'iShares Comex Gold Trust' and is listed on the American Stock Exchange.

* *Associate Professor,* Alliance Business School, Bangalore, Karnataka. email: kavita.chavali@gmail.com

Table 1: Representing GETFs trading on 11 Exchanges with Total Value of Gold Holding (As on 24th July 2007)

S No.	Name of the Gold ETF	AUM (in tones)
1	Gold Bullion Security Australia	12.48
2	Street Tracks Gold ETF listed on NYSE & Singapore	497.95
3	Lyxor Gold Security listed on LSE, Eurinext, Paris, BorsaItaliana & Frankfurter Wertpapierborse (Deutsche Borse)	93.10
4	New Gold Bullion Debentures Listed on JSE, SA	13.92
5	I shares Comex Gold Trust listed on NYSE	45.91
6	ZKB Gold ETF listed on Switzerland	21.7
7	GOLDDIST listed on Istanbul Stock Exchange	1.3
8	GoldBeES (Benchmark AMC), Goldshare (UTI AMC) & Kotak Gold (Kotak M F) listed on the National Stock Exchange India	3.36

Source: World Gold Council

INDIAN SCENARIO

According to the World Gold Council, India accounts for 23 per cent of the global annual demand (as in 2008) and is historically known as being a gold savvy country. In India, traditionally, gold is acquired in the form of jewelry, which is passed on from one generation to another, and is also a significant means of savings for the family. India is the world's largest consumer of gold jewelry. Banks and specified agencies are allowed to import gold but they later sell it to the domestic wholesale traders, fabricators and industrial consumers.

Gold Exchange Traded Fund (GETF) as an investment avenue is a recent entrant into the Indian market. The first GETF in India is Benchmark Mutual followed by UTI GETF both launched during 2007. Now, there are five Gold Exchange Traded Funds listed on National Stock Exchange. They are Benchmark Gold Exchange Traded Fund, UTI Gold Exchange Traded Fund, Reliance Gold Exchange Traded Fund, Kotak Gold Exchange Traded Fund and Quantum Gold Exchange Traded Fund.

REVIEW OF LITERATURE

Victor Fang, Chien-Ting Lin, Warren Poon (2007) examined the exposures of the Australian Gold Mining firms in the period 1995 – 2000 which was a highly volatile period in terms of gold price due to bulk sale of collective central banks. The factors that have an influence on gold beta are investigated.

Mathew T. Jones and Maurice Obstfeld (2007) revised and evaluated pre World War II current account data for 13 countries by treating gold flows on a continuous basis. The historical data of saving and investment was taken over a time period of 1850 - 1945.

Michael R. Rosella and Domenick Pugliese (2006) evaluated the product innovations in exchange-traded funds, their operation and growth, the use of broad-based indices for exchange traded funds, described newer ETFs that provide targeted exposure to narrow market segments and discussed underlying indices based on performance-based characteristics and possible difficulties in making this criteria widely available to investors.

Michael David Bordo (1985) evaluated the US economy returning to the classical gold standard—fixing the dollar price of gold and allowing the money supply to be governed by movements in the nation's monetary gold stock, to establish and maintain a steady and known growth rate of the fiduciary money supply, altering the official price of gold and the value of the monetary gold stock to stabilize some measure of the price level.

As this is an emerging area, where not much research has been done in the past, it has motivated the researcher to take up this study and understand the performance of GETF as an investment option for investing in the bullion market which has a long history in India in terms of consumption in the form of Jewelry.

OBJECTIVES

- To understand the correlation between BSE sensex and crude oil and also to evaluate to what extent is gold a hedge to inflation.
- To analyze the performance of the gold exchange traded funds in India based on annualized returns calculated based on NAV.
- To analyze the performance of the funds based on risk based on Standard Deviation, Beta, Sharpe Ratio, Treynor's Ratio, Jensen's Ratio, Net Selectivity, Alpha & R- squared.

METHODOLOGY

The objective of the study is to analyze and understand how far GETF is an investment avenue and a hedge to inflationary tendencies in economy. The correlation of the BSE sensex with crude oil prices is to see to what extent is GETF different from other types of investment avenues. The data is obtained from Bloomberg and World Gold Council website. The second part of the study analyzes the performance of Gold Exchange Traded funds for which the total population of 5 funds is taken. The performance of these schemes with respect to risk and returns was analyzed. Risk is measured considering the parameters like Standard Deviation, Beta, Sharpe Ratio, Treynor's Ratio, Jensen's Ratio, Net Selectivity, Alpha & R- squared. Secondary data was collected by visiting the various websites of the Asset Management Companies, articles available on the web, investment magazines and studying the fact sheets of the Asset Management companies.

ANALYSIS & FINDINGS

The study is divided into two parts. The first part is based on secondary data obtained from Bloomberg which focuses on understanding the correlation of Gold with the crude oil, sensex and inflation. The second part of the study focuses on the performance of Gold Exchange Traded funds as an investment avenue and their performance in terms of Risk and Return based on the NAV of the GETF in the Indian market.

Figure2: Representing World Gold Prices as in 2008

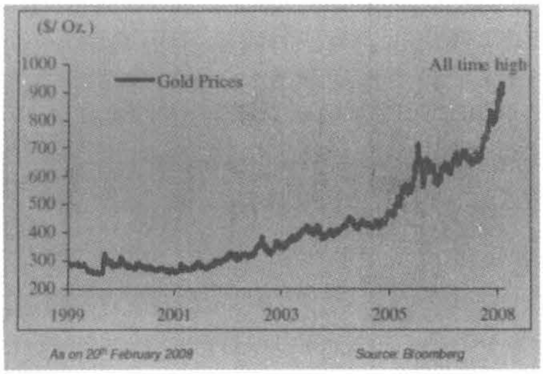
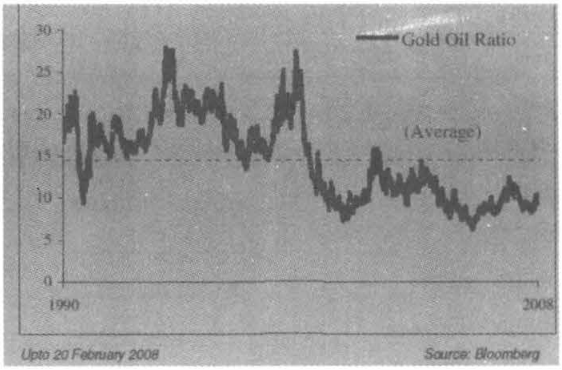


Figure 3: Representing Gold Oil Ratio



Despite the Global Gold prices' touching an all time high, the Gold Oil Ratio is still on the lower side.

Figure 4: Depicting Gold as a Hedge To Inflation

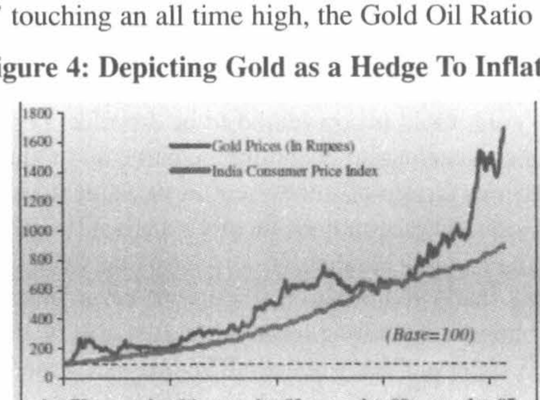


Figure 5: Representing the Correlation of Gold with BSE Sensex

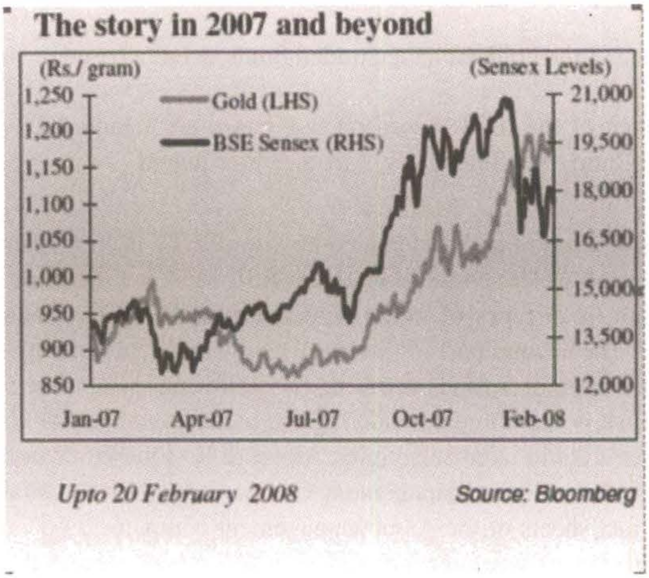


Table 2: Representing Correlation of Gold with the BSE Index and Crude oil

Period (year ending December 2006)	Sensex	Oil
1 Year	0.28	0.45
2 Years	0.24	0.32
3 Years	0.23	0.32
4 Years	0.13	0.23
5 Years	0.12	0.18
6 Years	0.07	0.17
7 Years	0.07	0.17
10 Years	0.03	0.13
15 Years	0.05	0.13
10 Years ending 2003	-0.13	0.14

Source: Bloomberg

Gold has a major role to play in the global economy. According to Figure 2, gold has touched an all time high in terms of price but in spite of it, gold is considered to be an asset whose intrinsic value and purchasing power will not be widely subjected to the fluctuations of inflation. In the past, during times of high inflation or depreciating currencies, people have turned to gold. Gold is considered to be a perfect hedge against inflation – higher the inflation, faster the value of currency devaluation becoming negative and reducing the real interest rates in the economy. Gold has become an obvious choice of investment as its value does not get devalued or get affected with increase or decrease in inflation. The economic factors which influence the value are contrarian in its impact on other financial assets. There is low to negative correlation between returns on gold and those on stock markets. In the long run, gold over- shadowed inflation (Figure: 4) i.e. in other words, Gold has proven to be a good hedge against inflation and maintaining a long-term value. It is observed from Figure 5 that when Gold is compared with the BSE sensex, it is observed that when the BSE sensex crashed in April 2007, it is seen that gold is doing well and increased in terms of price slowly and steadily. In February 2008, when the sensex crashed badly, gold as an asset is still soaring high as shown in the Figure: 5. It is observed in Table 2 that gold in the long run is negatively correlated with the BSE sensex.

Table 3: Representing Annualized Returns, Standard Deviation and Beta of GETF along with Ranking (as in October 2008)

S.No	Fund Name	Annualised Returns	Rank	Standard Deviation	Rank	Beta	Rank
1	UTI Gold Exchange Traded Fund	74.3413	2	1.8206	2	-0.1342	2
2	Reliance Gold Exchange Traded Fund	66.7941	5	1.879	4	-0.1554	4
3	Kotak Gold Exchange Traded Fund	69.7018	4	1.8242	3	-0.1486	3
4	Quantum Gold Exchange Traded Fund	87.0225	1	2.3239	5	-0.2835	5
5	Benchmark Gold Exchange Traded Fund	74.0674	3	1.8172	1	-0.1342	1

Gold Exchange Traded Funds are ranked on the basis of:

- **Annualized Returns:** According to theory, a fund which has the highest return is profitable to the investor. Quantum Gold Fund shows the highest return followed by UTI GOLD Exchange Traded Fund and Benchmark Mutual Fund. In such a turbulent market, investment in gold exchange traded fund is a profitable venture. The annualized returns haven't been negative. They all stand tall at something above 60% and out beat the market.
- **Standard Deviation:** It measures the risk of an asset from the mean. Lower the standard deviation, better the fund. Benchmark Mutual Fund has the lowest standard deviation followed by UTI Gold Exchange Traded Fund and Kotak Gold ETF. Standard Deviation like other measures cannot be used in isolation, one needs to check the standard deviations of other funds to get a better picture of the fund's relative volatility.
- **Beta:** It the risk (volatility) of an individual asset relative to the market portfolio. It is interesting to note that the beta values of all the funds are negative. A negative beta means that the GETF inversely follow the market and the asset generally decreases in value, if the market goes up and vice versa. This is one of the reasons why the popularity of GETF is increasing especially because of the uncertain turbulent situation and badly hit sensex.

Table 4: Showing Sharpe's Ratio, Treynor's Ratio and Jensen's Ratio of Gold Exchange Traded Funds as in October 2008

S. No	Fund Name	Sharpe's Ratio	Rank	Treynor's Ratio	Rank	Jensen's Alpha	Rank
1	UTI Gold Exchange Traded Fund	36.82	1	-499.35	1	62.18	2
2	Reliance Gold Exchange Traded Fund	31.66	5	-497.37	2	61.91	3
3	Kotak Gold Exchange Traded Fund	34.20	4	-281.20	5	51.97	5
4	Quantum Gold Exchange Traded Fund	34.30	3	-419.75	3	63.11	1
5	Benchmark Gold Exchange Traded Fund	36.74	2	-382.64	4	56.60	4

Table 5: Showing Net Selectivity, Alpha and R-Squared of Gold Exchange Traded Funds as in October 2008

S. No	Fund Name	Net Selectivity	Rank	Alpha	Rank	R-Square	Rank
1	UTI Gold Exchange Traded Fund	95.54	3	0.14	1	0.03	5
2	Reliance Gold Exchange Traded Fund	138.12	1	0.14	2	0.03	4
3	Kotak Gold Exchange Traded Fund	98.64	2	0.03	5	0.04	2
4	Quantum Gold Exchange Traded Fund	95.22	4	0.13	3	0.08	1
5	Benchmark Gold Exchange Traded Fund	93.48	5	0.11	4	0.03	3

- **Sharpe's Ratio:** It shows how much excess return is received for the extra volatility that is endured for holding a riskier asset. A fund with the highest Sharpe ratio is regarded as the best fund. UTI Gold Exchange Traded Fund has a Sharpe ratio of 36.822. Benchmark Mutual Fund and Quantum Gold Fund are ranked second and third respectively.
- **Treynor's Ratio:** It relates to the excess return on a portfolio to the portfolio Beta. It checks the diversity of the portfolio. Treynor's Ratio is negative because the portfolio return exceeds the risk-free rate, but the beta is negative. It means that the fund has performed well, outperforming the risk-free rate while actually reducing systematic risk.

UTI Gold Exchange Traded Fund is a fund which has a negative Treynor's Ratio of (-499.358). Reliance Gold

Exchange Traded Fund and Quantum Gold Fund follow UTI Fund, once again with negative returns.

- **Jensen's Alpha:** It reflects the difference between the return actually earned on a portfolio and the return the portfolio was supposed to earn, given the level of its systematic risk represented by beta according to capital asset pricing model. Higher the value of Alpha, better is the fund. From the above table, Quantum Gold Fund has the highest Alpha followed by UTI Gold Exchange Traded Fund and Reliance Gold Exchange Traded Fund.
- **Net Selectivity:** It represents the stock selection skill of the fund manager, as it is the excess return over and above the return required to compensate for the total risk taken by the fund manager. A fund with the highest net selectivity reflects the stock picking ability of the fund manager. Reliance GETF has the highest net selectivity followed by Kotak GETF and UTI GETF.
- **Alpha:** It is a measure of a fund's risk relative to the market. A fund is ranked best if it has the highest Alpha. From the above ranking chart, we notice that UTI Gold Exchange Traded Fund has the highest alpha (0.141) followed by Reliance Gold Exchange Traded Fund and Quantum Gold Fund.
- **R-Square:** A low R-squared value indicates that the fund has a large scope for diversification and a high R-squared value indicates that the fund is well diversified. Therefore, a fund with the highest R-square is ranked the best. Quantum Gold Fund is ranked the best followed by Kotak GETF and Benchmark Mutual Fund.

Gold ETFs provide investors a means of participating in the gold bullion market without the necessity of taking physical delivery of gold, and to buy and sell through the trading of a security on stock exchange. GETF have been the talk of the town as an investment avenue as they have shown good positive returns unlike other traditional mutual funds with negative return because of their low NAV values. Even when the market is going down and declining NAV of various traditional mutual funds, GETF maintained their return. All GETF's are doing well but particularly the UTI GETF, Quantum GETF and Reliance GETF are specifically doing well with an average return of 60-70 percent.

CONCLUSION

With a situation of increasing global uncertainty, few options are left for the investors because of the global meltdown and its effect on the Indian Capital market. Gold is one of the safest investment options available for the investors (According to World Gold Council). The world investment in gold assets in the 3rd quarter of 2008 was US $32 billion, in which, the biggest contributor is GETF with US$10.7 billion. The changing perception of gold as an investment avenue, especially among the conservative investors is seen all over the globe.

The greatest challenge for GETF in India is the lack of awareness among Indian consumers which acts as a major deterrent in its popularity. India still has a long way to go but this can be seen as one of the attractive investment avenues for the Indian investor and has its place in the portfolio of an Indian investor.

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