A STUDY ON COMPARATIVE ANALYSIS OF INVESTMENT AVENUES SUCH AS STOCK, EQUITY GROWTH MUTUAL FUNDS, AND GOLD ETFs

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Introduction

Saving is the surplus of income over expenditure and when such savings are invested to generate more money, it is called investment. During 19th century, revolution in investment took place through the banking system as it provided many investment options like Fixed deposits (FDs), government bonds, Public Provident Fund (PPF) to its investors. With the development of capital market, investment in stocks became a good option for generating higher returns. However, greater risk and lack of knowledge about the movement of stock prices led to the emergence of mutual funds as an ultra-modern method of investment to lessen the risk at low cost with experts' knowledge.

There's no doubt that equity has the ability to outperform any asset class in the long run. But the stock market is prone to high volatility in the short to medium term. Investing in a single company can be a high risk, high reward affair. When an investor goes for investing in a single or some of the shares in the stock exchange he is exposed to two kinds of risk – Market risk and Unique risk. Market risk is the systematic risk. It is the possibility for an investor to experience losses due to factors that affect the overall performance of the financial markets. Unique risk is the exposure to a particular company, and is sometimes referred to as firm-specific risk. There is no way that an investor can avoid the market risk. But the unique risk or unsystematic risk can be reduced to a greater extent by effectively diversifying the portfolio of the investor and also by managing the timing of the investment effectively.But the work of diversifying the portfolio is not easy. Effective diversification depends not only on the number of assets in a portfolio, but also on the ways and degrees in which their responses to economic events tend to reinforce, cancel, or neutralize one another. Diversification requires a concern over the market trend. It is a difficult task for an ordinary investor to have concern over all these tasks. Therefore the mutual fund plays as important role in the capital market of the countries like India where most of the investors are less informed, since these funds are automatically diversified, and since variety of flavors are available. It is generally believed that professional fund managers are better equipped in terms of access to information, processing skills and hence are expected to generate better returns on portfolios managed by them.

Along with MFs, today the Gold ETFs (Exchange Traded Funds) are gaining popularity along with other traditional mutual funds such as equity fund, debt fund, balanced fund, etc. Investing in gold ETF provides the benefit of liquidity and marketability which are a limitation of owning physical gold. Gold is considered the most robust as it counters the effects of inflation and exchange rate fluctuations. Gold has a negative relationship with equity, which makes it an ideal asset for diversification. Therefore, the presence of gold in a portfolio makes it more stable and resilient to volatility or market fluctuation.

Today investors across the globe are putting a lot of importance on gold as an investment product, the major reason being that the value of gold has been increasing and has reached an all-time high in the recent past. Gold ETF has become a promising investment avenue for most of the investors.

Against this background, this study has made an effort to compare the performance of investment avenues such as Stock, Equity Growth mutual funds, and Gold ETFs. Equity Growth Funds and the Gold ETFs have been used for the purpose of comparing the return from the equity and the gold market.

Need for the study

Even though investment in mutual funds provides better risk-adjusted return than investing directly on the stock, it should be noted that mutual funds do not provide any guarantee of returns or capital. Earlier researches have shown that 90 per cent of portfolio variability is due to asset allocation. Therefore variability in the net asset value of the funds is closely related to the diversification ability, timing of the investment, and the selectivity skills of the fund manager. In a country like India with less matured capital market, high volatility in equity market and low level of awareness among investors a question mark is put on the reliability of mutual funds, hence it is an important topic to be researched. The study evaluates the performance of selected Equity-Growth funds and Gold ETFs.

Objectives of the Study

1) To compare the annualized return of the Stock, Equity growth funds, and the Gold ETFs and also to compare the annualized return among the mutual funds selected, to analyse the relative perform of the investment avenues in terms of the return generated by them.
2) To compare the Total risk (Std. Deviation), and the Systematic risk (Beta) of the Stock, Equity growth funds, and the Gold ETFs and also to compare the same among the mutual funds selected.
3) To compare the performance of the investment avenues in terms of their risk-adjusted returns and to find out which avenue has been giving best return to the investor in the study period.

Scope of the study

The scope of the study is mainly concentrated on the top performing Mutual funds in India. It includes 5 Equity growth funds and 5 Gold ETFs.

Following Equity- Growth funds have been selected for the study purpose.

- HDFC Equity-Growth fund
- SBI Nifty Index fund
- Reliance Vision fund – Growth
- UTI Equity-Growth fund
- ICICI Prudential Nifty Index fund- Growth.

Following Gold Exchange Traded funds have been selected for the study-

- UTI Gold ETF
- Birla Sun Life Gold ETF
- Goldman Sachs Gold Exchange Traded Scheme
- HDFC Gold ETFs
- Axis Gold ETF

Data analysis and Methodology

To examine the performance of the mutual funds mentioned above, daily closing NAV values of each of the funds have been collected from the related websites. The period of the study is from 4th July 2011 to 30th June 2016 (5 years).

For benchmarking and comparison purpose, the index Nifty 50 of National Stock Exchange for both Equity-growth funds and Gold ETFs has been used in the study and the daily closing values of the said index are collected for the study period from the related website.

The risk free rate of return is assumed to be 6.5% for the period of study.

The methodology used for the analysis of performance of mutual funds are-
Annualized Return-
The return refers to the average daily return achieved by the mutual funds under consideration. Following equation has been used in the study.

$$R = \text{Log of} \left(\frac{NAV_2}{NAV_1} \right) \times 100$$

Total Risk (Standard Deviation)-
Standard deviation depicts the total risk of an investment avenue as it measures the volatility of the return from the investment.
Systematic Risk (Beta)
Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.
Treynor's Index
The Treynor ratio is calculated as follows-

$$Ti = \frac{Rp - Rf}{\beta}$$

Where,
Rp – Annualized Return of a Portfolio
Rf – Risk free rate
β – Beta of the portfolio

Treynor ratio is a risk-adjusted measurement of a return, based on systematic risk. It measures how successful an investment is in providing investors compensation, with consideration for the investment's inherent level of risk.
Sharpe's Index
Sharpe ratio is calculated as follows-

$$Si = \frac{Rp - Rf}{\sigma}$$

Where σ is the Standard deviation or Total risk.
Sharpe ratio determines whether investor is making significantly greater return on his investment in exchange for accepting the additional risk inherent in equity investing as compared to investing in risk-free instruments.

Jensen's Ratio

The Jensen's measure is a risk-adjusted performance measure that represents the average return on a portfolio or investment above or below that predicted by the capital asset pricing model (CAPM). Jensen's ratio is calculated as follows-

$$Ji = Rp - Rf + \beta\ (Rm - Rf)$$

Where *Rm* is the return realized on the portfolio.

R-squared (R^2 or Coefficient of Determination)

R-squared is simply a measure of the correlation of the portfolio's returns to the benchmark's returns. A higher correlation coefficient depicts better diversification of the portfolio.

M-squared (M^2) - Modigliani and Modigliani Measure

M^2 calculates the extent to which the returns of the portfolio, adjusted for the risk is relative to that of some benchmark.

$$M^2 = Rp^* - Rm$$

The ***Rp**** or return on adjusted portfolio is the managed portfolio adjusted in such a way that it has the same total risk as the market portfolio. The adjusted portfolio is constructed as a combination of the managed portfolio and risk-free asset, where weights are specified as in equations below-

$$Wrp = \sigma m / \sigma p \quad \& \quad Wrf = 1 - Wrp$$

Where,

σ_p – Total risk of the portfolio

σ_m – Total risk of the benchmark index

Wrp represents the weight given to the managed portfolio, and ***Wrf*** is the weight on the risk-free asset.

$$Rp^* = Wrp \times Rp + Wrf \times Rf$$

Appraisal Ratio

The appraisal ratio measures the quality of a fund's investment picking ability. It compares the fund's alpha to the portfolio's unsystematic risk. Appraisal ratio is calculated as follows-

$$AR = \frac{Alpha\ (\alpha)}{Unique\ risk}$$

Analysis and Findings

Analysis for the study period (2011-12 to 2015-16)

Overall	TR	SD	Beta	Ti	Si	Ji	R2	M2	App. Ratio
Nifty	38.30	1.06	1.00	38.24	36.01	-	-	-	-
HDFC EGF	48.55	1.14	1.00	48.67	42.55	10.39	0.86	6.93	57.77
SBI NIF (EGF)	37.76	1.05	0.99	38.23	35.73	-0.01	0.98	-0.31	-0.31
UTI EGF	62.66	0.92	0.83	75.24	67.96	30.78	0.92	33.92	451.83
Reliance VF (EGF)	47.38	1.10	0.94	50.33	43.10	11.37	0.83	7.52	54.43
ICICI NIF (EGF)	41.36	1.04	0.97	42.62	39.82	4.24	0.98	4.04	244.08
Average of EGFs	47.54	1.03	0.94	50.26	46.22	11.36	0.95	10.84	231.51
UTI Gold ETF	32.97	1.09	-0.08	-402.81	30.22	36.03	0.01	-6.10	30.59
Birla SL Gold ETF	32.80	1.11	-0.08	-395.24	29.51	35.90	0.01	-6.86	29.37
Goldman Sachs Gold ETF	32.77	1.08	-0.08	-407.54	30.27	35.78	0.01	-6.05	30.84
HDFC Gold ETF	32.42	1.08	-0.08	-401.78	29.87	35.43	0.01	-6.48	30.39
Axis Gold ETF	32.28	1.08	-0.08	-397.14	29.85	35.32	0.01	-6.50	30.50
Average of Gold ETFs	32.65	1.08	-0.08	-400.87	30.06	35.69	0.01	-6.27	30.58

The above table shows the return, risk, and risk-adjusted return measures for the mutual funds under consideration, for the overall study period. We can see that the annualized return for all the equity-growth and Gold ETFs except SBI Nifty Index Fund and the Gold ETFs had outperformed the market during the study period. The maximum return was from UTI Equity growth fund which was 62.66%. When comparing the equity growth funds with the Gold ETFs, it can be found that the average return of the 5 equity growth funds was 47.54% during the period and the average return of the 5 Gold ETFs was 32.65%.

Total risk (standard deviation) - The total risk ranged from 0.9 to 1.1. The systematic risk of the Equity growth funds ranged from 0.83 to 1.00. This shows that the Equity growth funds have moved alike the benchmark index during the study period. The Beta of all the Gold ETFs was around -0.08 and thus it is interpreted that the Gold ETFs were very defensive that is very less volatile in comparison with benchmark index.

Treynor's ratio - UTI had the highest risk-adjusted return and it is also found that all the equity growth funds had outperformed the market except SBI Nifty Index fund whose Ti was almost equal to that of the benchmark index. With regard to the Gold ETFs, all the ETFs had negative Treynor's ratio at around 400.

Sharpe's ratio - UTI had the highest risk-adjusted return and all the equity growth funds had outperformed the market except SBI Nifty Index fund. With regard to the Gold ETFs, all the funds had positive Sharpe curve at around 30, but which is less than that of the market.

Jensen's Alpha - UTI equity growth fund had beat the market during the study period. All the equity growth funds except SBI Nifty index fund had positive alpha. With regard to the Gold ETFs, the funds had the Alpha of around 35.

Coefficient of determination - The R^2 of the equity growth funds ranged from 0.83 to 0.98. This depicts a better diversification by the fund managers of these funds during the study period.

M-squared - UTI equity growth fund had outperformed the market and had 33.92% more return from adjusted portfolio, than the market. SBI Nifty index fund had underperformed during the period and -0.31% M^2. With regard to the Gold ETFs, the funds had underperformed the market and had -6.3% M^2.

Appraisal ratio - UTI equity growth fund had highest alpha per unit of unsystematic risk- 451.83. Other equity growth funds except SBI Nifty Index fund also had a positive Appraisal ratio.

Analysis for the period 2011-12

2011-12	AR	SD	Beta	Ti	Si	Ji	R2	M2	App. Ratio
Nifty	-6.80	1.30	1.00	-6.87	-5.28	-	-	-	-
HDFC EGF	-9.39	1.22	0.90	-10.51	-7.73	-3.28	0.92	-3.20	-26.74
SBI NIF (EGF)	-6.48	1.30	1.00	-6.54	-5.02	0.33	1.00	0.33	141.41
UTI EGF	-1.34	1.01	0.76	-1.84	-1.38	3.84	0.96	5.07	94.91
Reliance VF (EGF)	-8.45	1.22	0.88	-9.66	-6.98	-2.46	0.89	-2.22	-14.49
ICICI NIF (EGF)	-6.09	1.25	0.96	-6.39	-4.91	0.46	1.00	0.48	226.38
Average of EGFs	-6.35	1.18	0.90	-7.11	-5.42	-0.22	0.98	-0.18	-9.18
UTI Gold ETF	30.27	1.47	0.18	169.71	20.53	31.43	0.03	33.94	14.89
Birla SL Gold ETF	29.79	1.47	0.18	169.39	20.17	30.93	0.02	33.47	14.60
Goldman Sachs Gold ETF	29.82	1.46	0.18	167.81	20.41	30.97	0.03	33.79	14.96
HDFC Gold ETF	30.07	1.46	0.18	169.48	20.52	31.22	0.03	33.93	14.98
Axis Gold ETF	29.65	1.46	0.18	167.92	20.30	30.79	0.03	33.64	14.88
Average of Gold ETFs	29.92	1.46	0.18	168.86	20.39	31.07	0.03	33.76	14.87

Before starting the analysis of the performance evaluation measures let us have a view on the condition of the Indian economy for the period 2011-12. Because of the crisis in the Euro area, the period was a bad period for the Indian economy, which saw a series of economic problems like fewer job opportunities, high inflation, less consumption that reduced the demand level of the economy, etc. The economy grew at its slowest pace during the period. All these put pressures on the financial markets in India. So during the period there was a setback for the investors as the financial market saw a severe down phase. The situation is depicted in the above table.

Annualized return - Return for the period is negative in case of all the equity growth fund. Among the equity growth funds selected, HDFC equity growth fund registered highest loss of 9.39%. UTI equity growth fund had the least loss of 1.34% which shows that UTI was successful in reducing the loss to the investors. With regard to the Gold ETFs, all the ETFs under consideration had recorded return of almost 30%.

Total Risk - Total risks of all the funds were alike which ranged from 1.01 to 1.47. The beta of the equity growth funds were on average 0.90. This shows that the equity growth funds were neither defensive nor aggressive and were moving alike the benchmark index.

Treynor's ratio - All the equity growth funds had negative Ti since the funds had recorded loss during the period. HDFC equity growth fund had the least Ti. The highest Ti was recorded in case of UTI equity growth fund which is negative (-1.84). This shows UTI was successful in reducing the loss per unit of systematic risk. With regard to the Gold ETFs, all the funds had outperformed the market during 2011-12.

Sharpe's Ratio - The same result is depicted in the Sharpe's ratio as in TR. Si of the equity was negative in case of all the equity growth fund. UTI again had the highest Si. With regard to Gold ETFs, the Shape's ratio was positive and higher than that of the market.

Jensen's Alpha - UTI equity growth fund, SBI Nifty Index fund, and ICICI Prudential Nifty Index fund had the positive alpha that shows that these equity growth funds had less loss than the expected loss on the basis of CAPM model. With regard to the Gold ETFs, the Alpha recorded is around 31.

Coefficient of determination - The R^2 of the equity growth fund ranged from 0.89 to 1.00. This shows that the equity growth funds were better diversified during 2011-12 and the unique risk or unsystematic risk was better controlled through the well diversified portfolio.

M-squared or M^2 – Highest M^2 was recorded by UTI equity growth fund (5.07) that shows the success of the fund in reducing risk. With regard to Gold ETFs, the average M^2 is 33.76 which shows that the Gold ETFs had higher return on the adjusted portfolio than the market return.

Appraisal ratio - ICICI Prudential Nifty Index fund had highest value that shows the higher stock picking ability of the fund manager. With regard to the Gold ETFs, the appraisal ratio was around 14.8 that shows Gold ETFs had beat the returns of benchmark index during the period.

Overall, during 2011-12 the stock market had fell down sharply and the stock market had recorded a loss to the investors. However, the equity growth funds under consideration were successful in reducing the loss that could have been, through their effective diversification. Gold ETFs had outperformed the market.

Analysis for the period 2012-13

2012-13	AR	SD	Beta	Ti	Si	Ji	R2	M2	App. Ratio
Nifty	10.14	0.89	1.00	10.07	11.29	-	-	-	-
HDFC EGF	4.05	0.93	0.91	4.36	4.27	-5.23	0.77	-6.26	-25.63
SBI NIF (EGF)	10.14	0.87	0.92	10.96	11.62	0.82	0.89	0.30	10.34
UTI EGF	10.44	0.73	0.76	13.71	14.15	2.75	0.85	2.55	33.57
Reliance VF (EGF)	-0.82	0.90	0.84	-1.06	-0.98	-9.32	0.68	-10.95	-35.95
ICICI NIF (EGF)	9.89	0.85	0.90	10.92	11.56	0.76	0.89	0.24	9.84
Average of EGFs	6.74	0.83	0.87	7.71	8.02	-2.04	0.86	-2.92	-21.04
UTI Gold ETF	-17.29	1.06	-0.10	165.58	-16.33	-16.30	0.01	-24.56	-14.55
Birla SL Gold ETF	-16.91	1.07	-0.10	172.74	-15.86	-15.99	0.01	-24.14	-14.05
Goldman Sachs Gold ETF	-17.21	1.05	-0.10	165.75	-16.39	-16.23	0.01	-24.61	-14.71
HDFC Gold ETF	-17.34	1.06	-0.10	166.37	-16.43	-16.35	0.01	-24.64	-14.68
Axis Gold ETF	-17.12	1.05	-0.10	164.40	-16.31	-16.13	0.01	-24.54	-14.65
Average of Gold ETFs	-17.17	1.06	-0.10	166.90	-16.27	-16.20	0.01	-24.50	-14.53

Despite the economic challenges such as fiscal deficit, lower GDP growth and other issues, there was a bull phase in the stock market in the beginning of the year 2013, as a result of reforms in FDI, banking and other sectors. Increased foreign institutional investment in the 2^{nd} half of the period 2012-13 made the stock market to rise up.

Annual return - UTI Equity growth fund and SBI Nifty Index funds had achieved highest return at around 10%. On average, the equity growth funds under consideration had recorded a return of 6.74%. With regard to the Gold ETFs, all the funds under consideration had return at around -17%.

Standard deviation - UTI Equity growth fund had the least risk of 0.73 but had a higher return in spite of taking lower risk. HDFC Equity growth fund had the highest risk of 0.93 but had registered lesser return of 4.05% and Reliance vision fund, in spite of taking risk of 0.9, had a negative return. This is a strange case which is against the high risk-high return principle. With regard to the Gold ETFs all the funds had same level of risk at around 1.05.

Beta - UTI equity growth fund was a defensive fund. This defensive strategy might have helped UTI to record a higher return during the period. HDFC equity growth fund and reliance vision fund were quite neutral and they had registered lower return.

Treynor's ratio - UTI equity growth fund, SBI Nifty Index fund and ICICI Prudential Nifty Index funds had outperformed the market. Reliance vision fund had a negative Ti. With regard to Gold ETFs the funds had Ti at around 167. Ti of Gold ETFs was positive as they had registered negative return as well as negative Beta.

Sharpe's ratio - When we consider the Sharpe ratio, UTI equity growth fund, SBI Nifty Index fund and ICICI Prudential Nifty Index fund had outperformed the market. All the Gold ETFs had the same level of negative Sharpe's ratio at around -16.3 that proves the underperformance of the Gold ETFs.

Jensen's Alpha - UTI equity growth fund had the highest alpha of 2.75. SBI Nifty Index fund and ICICI Prudential Nifty Index fund had achieved return that is expected. All the Gold ETFs had failed to get the expected return on investment.

Coefficient of determination - 3 equity growth funds namely, UTI equity growth fund, SBI Nifty Index fund and ICICI Prudential Nifty Index fund had the R^2 of more than 85%. This tells that these 3 funds have been efficiently diversified to reduce the unique risk.

M^2 - UTI Equity Growth fund had the greater M^2 that tell that during the period, the fund had given return more than the market to the extent of 2.55%. All the Gold ETFs under consideration had given the return which is almost 24.5% less than the return of the market during the period.

Appraisal ratio - UTI Equity growth fund had the greater appraisal ratio that tells that the fund manager of this fund had the greater stock picking ability. HDFC Equity Growth fund and Reliance Vision funds had the negative appraisal ratio.

Overall, a good performance was seen by the Equity Growth funds during the period 2012-13 as investors had greater attraction towards the stock market than the Gold market.

Analysis for the period 2013-14

2013-14	AR	SD	Beta	Ti	Si	Ji	R2	M2	App. Ratio
Nifty	26.45	1.09	1.00	26.39	24.14	-	-	-	-
HDFC EGF	45.64	1.16	1.00	45.80	39.15	19.32	0.87	16.42	112.62
SBI NIF (EGF)	25.68	1.08	0.99	25.83	23.62	-0.56	1.00	-0.57	-944.45
UTI EGF	33.41	0.92	0.82	40.79	36.22	11.77	0.94	13.21	241.05
Reliance VF (EGF)	40.88	1.07	0.89	46.03	38.32	17.42	0.83	15.50	89.39
ICICI NIF (EGF)	27.88	1.09	0.99	27.97	25.56	1.57	1.00	1.56	1,025.23
Average of EGFs	34.70	1.04	0.94	36.96	33.28	9.90	0.97	9.99	295.04
UTI Gold ETF	9.58	1.11	-0.20	-47.43	8.60	14.81	0.04	-17.01	12.58
Birla SL Gold ETF	10.48	1.21	-0.21	-49.46	8.64	15.97	0.04	-16.96	11.40
Goldman Sachs Gold ETF	9.20	1.10	-0.20	-45.96	8.30	14.39	0.04	-17.34	12.34
HDFC Gold ETF	9.41	1.11	-0.20	-46.61	8.46	14.64	0.04	-17.16	12.48
Axis Gold ETF	9.30	1.10	-0.20	-46.35	8.40	14.49	0.04	-17.23	12.47
Average of Gold ETFs	9.60	1.11	-0.20	-47.18	8.62	14.86	0.04	-16.98	12.66

During 2013-14, the growth of the economy started in the 2nd quarter of the period. The condition of aggregate demand in the economy improved. The fiscal policy measures were successful in controlling the inflation, input cost and other economic concerns. So, there was a better trend in the stock market. Along the boom in the stock market there was a hike in the gold price in the beginning of 2014 factored by increase in the domestic demand for gold.

Annual return - All the equity growth funds had positive return and all the funds except the SBI Nifty Index fund had outperformed the market. With regard to the Gold ETFs, Birla SL Gold ETF had the highest return of 10.5% and all other ETFs had the return of around 9.5%.

Standard deviation - HDFC equity growth fund had the highest total risk of 1.16 and the fund had also achieved the highest return. UTI equity growth fund had the lowest risk of 0.92. But it had achieved moderate level of return of 33.4%. With regard to the Gold ETFs all had the same level of risk of around 1.1.

Beta or the systematic risk - UTI had the lowest Beta of 0.82 that tells that the fund was defensive in the market. HDFC equity growth fund had the Beta of exactly 1 which might be the reason for achieving the greater return by the fund.

Treynor' ratio - HDFC EG fund and the Reliance Vision fund had the Ti of 45.8 and 46.03 respectively. All funds except SBI Nifty Index fund had outperformed the market. With regard to the Gold ETFs the funds had better Ti of around -47 (negative Ti because of the negative Beta) and had outperformed the market.

Sharpe's ratio - HDFC Equity growth fund had the highest Si. The risk adjusted return of the fund was 39.15. All the funds except SBI Nifty Index fund had outperformed the market. With regard to the Gold ETFs funds had the Si of 8.6 on average which is much less than that of the benchmark index.

Jensen's Alpha - HDFC Equity growth fund had the highest Alpha of 19.32 that shows that the fund had the return which is much higher than the expected return based on CAPM. On average the Equity growth funds had the Alpha of 9.9. With regard to the Gold ETFs, the funds had the Alpha of around 14.9.

Coefficient of determination - R^2 of the Equity growth funds ranged between 83% and 100% that proves their less unique risk and efficient diversification. With regard to the Gold ETFs the funds had the R^2 of around 0.04 that tells that the funds had much higher unique risk.

M-squared - HDFC Equity Growth funds had the highest M^2 of 16.42. With regard to the Gold ETFs, funds had M^2 of around -17 that tells that Gold ETFs had much lesser return on adjusted portfolio than the market.

Appraisal ratio - ICICI Prudential Nifty Index funds had the highest Alpha per unit of unique risk (1025.23). This tells that the fund manager of the fund had the stock picking skills. With regard to the Gold ETFs the Appraisal ratio of ETFs was 12.66, which is not favourable level.

Overall, the performance of the Equity Growth funds was better during the period, and they also had outperformed the market by reducing the unique risk through their effective portfolio. Out of Equity

Growth funds, HDFC EG fund and Reliance Vision Fund were the best performers in the market. The Gold ETFs also had made some good risk-adjusted returns.

Analysis for the period 2014-15

2014-15	AR	SD	Beta	Ti	Si	Ji	R2	M2	App. Ratio
Nifty	9.48	0.91	1.00	9.42	10.30	-	-	-	-
HDFC EGF	9.16	1.06	1.07	8.51	8.58	-0.97	0.85	-1.57	-5.76
SBI NIF (EGF)	9.03	0.91	0.99	9.03	9.87	-0.38	1.00	-0.39	-607.17
UTI EGF	17.58	0.92	0.96	18.17	18.99	8.43	0.91	7.95	114.73
Reliance VF (EGF)	15.81	1.05	1.04	15.21	15.02	5.99	0.82	4.32	29.64
ICICI NIF (EGF)	9.99	0.90	0.98	10.08	11.02	0.65	1.00	0.66	1,268.35
Average of EGFs	12.31	0.94	1.01	12.14	12.98	2.75	0.96	2.45	70.70
UTI Gold ETF	-6.08	0.75	-0.17	36.78	-8.14	-4.57	0.04	-16.84	-8.37
Birla SL Gold ETF	-6.84	0.74	-0.17	41.40	-9.30	-5.34	0.04	-17.89	-10.09
Goldman Sachs Gold ETF	-5.50	0.75	-0.16	33.98	-7.47	-4.03	0.04	-16.22	-7.55
HDFC Gold ETF	-5.74	0.75	-0.17	35.09	-7.78	-4.25	0.04	-16.51	-7.96
Axis Gold ETF	-5.74	0.75	-0.17	34.14	-7.73	-4.20	0.04	-16.46	-7.79
Average of Gold ETFs	-5.98	0.75	-0.17	36.28	-8.10	-4.48	0.04	-16.80	-8.38

The year 2014-15 saw a change in the policy maker in India and also India emerged as one of the largest economies with promising economic outlook. The period saw a series of economic developments like controlled inflation, rise in domestic demand, increase in the investment, decline in oil prices, and other developments that led to the start of bull phase in the market.

Annualized growth - During the period, UTI Equity Growth fund and Reliance Vision fund had outperformed the market and had achieved good return of 17.58% and 15.81% respectively. With regard to the Gold ETFs, the funds had registered a loss of 5.9% on average.

Standard deviation - The Equity growth funds had the total risk of 0.94 on average. Gold ETFs had registered much lower risk of around 0.75.

Beta - the Equity growth funds had the systematic risk of around 1. This tells that the Equity growth funds were neither defensive nor aggressive during the period. With regard to the Gold ETFs the systematic risk was -0.17.

Treynor's ratio - All the equity growth funds had positive risk-adjusted return. UTI EG fund, Reliance Vision fund, and ICICI Prudential Nifty Index funds had outperformed the market during the period. With regard to the Gold ETFs the funds had positive Ti because of negative return negative Beta.

Sharpe's ratio - UTI Equity Growth fund, Reliance Vision fund, and ICICI Prudential Nifty Index funds had outperformed the market during the period. All the equity growth fund had the positive Si. With regard to the Gold ETFs, the funds had the Si of around -8 which is much lower than the benchmark index.

Jensen's Alpha - UTI Equity growth fund and Reliance Vision fund had the Alpha of 8.43% and 5.99% respectively that tells that the returns of these funds were greater than the equilibrium return. With regard to the Gold ETFs, the funds had the Alpha of around -4.5% on average.

Coefficient of determination - Equity growth funds had the R^2 ranging from 0.82 to 1. This tells that the funds had efficient and well diversified portfolio that were able to reduce the unique risk effectively. The Gold ETFs had the R^2 of 0.04 that tells that the funds were not moving along with the market.

M-Squared - UTI Equity growth fund and Reliance Vision fund had the return on adjusted portfolio, which is greater than the market return to the extent of 7.95% and 4.32% respectively. With regard to the Gold ETFs, on average the M^2 was -16.8%.

Appraisal ratio - ICICI Prudential Nifty Index fund had the greater Alpha per unit of unique risk- 1268.35, proving that the manager of the fund had the greater selectivity skill. UTI Equity Growth fund also had better appraisal ratio. All the Gold ETFs had negative appraisal ratio as they had negative Alpha.

Overall, the performance of Equity growth funds was better during the period as there was a good trend of stock prices. Out of the Equity growth funds, UTI Equity growth fund and Reliance Vision fund had performed better. Gold ETFs did not perform better as gold market was in the bear phase.

Analysis for the period 2015-16

2015-16	AR	SD	Beta	Ti	Si	Ji	R2	M2	App. Ratio
Nifty	-0.97	1.06	1.00	-1.03	-0.98	-	-	-	-
HDFC EGF	-0.91	1.28	1.14	-0.85	-0.76	0.21	0.89	0.23	1.14
SBI NIF (EGF)	-0.61	1.06	1.00	-0.67	-0.64	0.36	1.00	0.36	761.02
UTI EGF	2.58	0.99	0.90	2.78	2.54	3.45	0.94	3.72	54.66
Reliance VF (EGF)	-0.03	1.22	1.08	-0.09	-0.08	1.03	0.89	0.95	6.11
ICICI NIF (EGF)	-0.32	1.05	0.99	-0.39	-0.37	0.64	1.00	0.65	1,040.17
Average of EGFs	0.14	1.10	1.02	0.08	0.07	1.14	0.97	1.11	34.72
UTI Gold ETF	16.48	0.91	-0.27	-61.05	17.95	16.14	0.10	20.01	21.35
Birla SL Gold ETF	16.28	0.91	-0.27	-61.12	17.83	15.94	0.10	19.89	21.31
Goldman Sachs Gold ETF	16.47	0.91	-0.27	-61.83	18.01	16.13	0.09	20.07	21.47
HDFC Gold ETF	16.01	0.91	-0.26	-60.63	17.52	15.68	0.09	19.55	20.85
Axis Gold ETF	16.20	0.91	-0.26	-61.34	17.82	15.86	0.09	19.87	21.36
Average of Gold ETFs	16.29	0.91	-0.27	-61.19	17.85	15.95	0.10	19.91	21.35

The year 2015-16 turned to be complicated year for investors with corporate performance failing markets expectation. A turbulent equity movement, dismal corporate earnings, sub normal monsoons, Brexit etc. made the Indian stock market to have a setback in the 2nd half of the period. All these economic concerns made the investors in India to turn toward the gold market.

Annual return - The only equity growth fund that made profit during the period was UTI Equity growth fund which had registered a return of 2.58%. With regard to the Gold ETFs the funds made a return ranging between 16.01% and 16.48%. Thus the Gold ETFs had performed well during the period.

Total risk - The equity growth funds had the standard deviation ranging from 0.99 to 1.28. The risk associated with the Gold ETFs was 0.91 in case of all the funds. With moderate level of risk, the Gold ETFs have succeeded in getting a good return.

Beta - On average the funds had the Beta of 1.02. This shows that the equity growth funds were neither aggressive nor defensive during the period. With regard to the Gold ETFs, the funds had Beta of -0.27 in all the cases.

Treynor's ratio – Only the UTI EG fund had positive Ti of 2.78. But EG funds had Ti which is greater than that of the benchmark index that tells that the funds were able to reduce loss. With regard to the Gold ETFs all the funds had outperformed the market. Gold ETFs had negative Ti of around -61 because they had negative Beta.

Sharpe's ratio - UTI EG fund had positive Si of 2.54. The equity growth funds had outperformed the market during the year as they had Si that is greater than that of the market. With regard to the Gold ETFs, Goldman Sachs Gold ETF had the greatest Si of 18.01. All the Gold ETFs had outperformed the market.

Jensen's Alpha - All the EG funds had positive Alpha that tells that the funds were successful in meeting the expected return. With regard to the Gold ETFs, the all funds under consideration had the Alpha of around 16% proving that the funds were successful in getting higher return much greater than the expected return.

Coefficient of determination - The equity growth funds had the R^2 ranging between 0.89 and 1.00. This tells that the equity growth funds had a well-diversified portfolio and were successful in reducing the unique risk. The Gold ETFs had the R^2 of around 0.1.

M-Squared - UTI Equity Growth fund had the highest M^2 of 3.72%. All the equity growth funds had the positive M^2. With regard to the Gold ETFs the funds had the M^2 of around 20% that means the funds had the return on the adjusted portfolio which is 20% higher than the market return.

Appraisal ratio - ICICI prudential Nifty index fund had the highest Appraisal ratio of 1040.17 that tells that the fund had very less unsystematic risk. With regard to the Gold ETFs, all the funds had the Appraisal ratio of around 21.35.

Overall, during the period there was good trend in the gold market as the investors had shifted from the stock market to the gold market because of the above said economic developments. Among the equity growth funds, UTI Equity Growth fund had performed well during the year and was successful in getting a positive return for the investors. In fact all the equity growth funds were successful in reducing the loss to the investors through their effectively diversified portfolio.

Conclusion

Analysis and interpretation of the data shows that out of the investment avenues such as the Stock, Equity Growth funds, and Gold ETFs, Equity Growth funds seemed to be well performing avenue as they had much higher risk-adjusted return to compensate the investors for the risk taken by them. The equity growth funds under consideration had outperformed the market in all the five years selected for the study. Thus the investment in equity growth fund seemed to be more profitable than going for investing in single stock in the market. Investment in Equity Growth funds also seemed to be less risky as they had registered less loss when the stock market had fallen down due to economic reasons during the years 2011-12 and 2015-16. This was possible due to highly well diversified portfolio of the equity growth funds.

Among the Equity growth funds, UTI Equity growth fund seemed to be highly efficient fund as the fund had outperformed in all the five years of the study. Other than UTI Equity growth fund, HDFC Equity growth fund and Reliance Vision fund were also promising fund that were successful in getting higher return to the investors. SBI Nifty Index fund and ICICI Nifty Index fund had average performance and were not successful in getting higher risk-adjusted return to the investors.

Gold ETFs had performed really well when there was a good trend in the gold market in the years 2011-12, 2013-14, and 2015-16. Gold ETFs have also outperformed the market during these periods. Thus the Gold ETFs acted as a promising investment when the stock market had bad trend. But the returns from the Gold ETFs were not as high as that of the equity growth funds. All the Gold ETFs had almost same level of performance and it was not possible to differentiate between the funds as to which fund was really performing well.

The study also proved that the performance of the equity growth funds and the gold ETFs highly depend on the trends in the economy and the stock market. When the stock market was on bull phase, the equity growth funds had performed well in terms of risk-adjusted return and when the stock market was on falling trend, the gold ETFs had outperformed the market.

Overall the study concludes that investment in the Equity Growth funds are highly profitable as they will be having highly diversified portfolio that gets more return to the investors when the market is good and also minimize the loss to the investors when the market is bad.

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