A study on pharma sector equity funds against Benchmark returns

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ABSTRACT
A mutual fund is a financial intermediary that pools the savings of investors for collective investment in a diversified portfolio of securities. A variety of mutual fund schemes available for investors for meeting their financial goals. This paper attempts to study the performance evaluation of selected equity-pharma diversified growth funds from various fund houses using standard deviation, beta, Sharpe ratio, alpha, and sortino ratio. The study period was taken from 2010-2014.

Introduction
A mutual fund is an investment vehicle that pools together funds from investors to purchase stocks, bonds or other securities. An investor can participate in the mutual fund by buying the units of the fund. Each unit is backed by a diversified pool of assets, where the funds have been invested. A close–ended fund has a fixed number of units outstanding. It is open for specific period. During that period investors can buy it. The initial offer period is terminated at the end of the pre-determined period. The close-ended schemes are listed in the stock exchanges. The investor can trade the units in the stock markets just like other securities. The prices may be either quoted at a premium or discount.

In the open-end schemes, units are sold and bought continuously. The investor can directly approach the fund managers to buy or sell the units. The price of the unit is based on the net asset value of the particular scheme. The net asset value of the fund is the value of the underlying of the securities of the schemes. The net asset value is calculated on daily or weekly basis. The gain or loss made by mutual fund is passed on to the investors after deducting the administrative expenses and investment management fees. The gains are distributed to the unit holder in the form of dividend or reinvested by the fund to generate further gains. The mutual fund may be with or without a load factor. A commission or charge paid by the investors while purchasing or selling the mutual fund is known as load factor. Front –end load is charged.

Concept of mutual fund
As the name suggests, a ‘mutual fund’ is an investment vehicle that allows several investors to pool their resources in order to purchase stocks, bonds and other securities. These collective funds (referred to as Assets under Management or AUM) are then invested by an expert fund manager appointed by a mutual fund company. The combined underlying holding of the fund is known as the ‘portfolio’, and each investor owns a portion of this portfolio in the form of units.

Mutual Fund History
The mutual fund industry in India started in 1963 with the formation of Unit Trust of India, at the initiative of the Government of India and Reserve Bank of India. The history of mutual funds in India can be broadly divided into four distinct phases

First Phase - 1964-1987
Unit Trust of India (UTI) was established in 1963 by an Act of Parliament. It was set up by the Reserve Bank of India and functioned under the Regulatory and administrative control of the Reserve Bank of India. In 1978 UTI was de-linked from the RBI and the Industrial Development Bank of India (IDBI) took over the regulatory and administrative control in place of RBI. The first scheme launched by UTI was Unit Scheme 1964. At the end of 1988 UTI had Rs. 6,700 crores of assets under management.
Second Phase - 1987-1993 (Entry of Public Sector Funds)
1987 marked the entry of non-UTI, public sector mutual funds set up by public sector banks and Life Insurance Corporation of India (LIC) and General Insurance Corporation of India (GIC). SBI Mutual Fund was the first non-UTI Mutual Fund established in June 1987 followed by Canbank Mutual Fund (Dec 87), Punjab National Bank Mutual Fund (Aug 89), Indian Bank Mutual Fund (Nov 89), Bank of India (Jun 90), Bank of Baroda Mutual Fund (Oct 92). LIC established its mutual fund in June 1989 while GIC had set up its mutual fund in December 1990. At the end of 1993, the mutual fund industry had assets under management of Rs. 47,004 crores.

Third Phase - 1993-2003 (Entry of Private Sector Funds)
With the entry of private sector funds in 1993, a new era started in the Indian mutual fund industry, giving the Indian investors a wider choice of fund families. Also, 1993 was the year in which the first Mutual Fund Regulations came into being, under which all mutual funds, except UTI were to be registered and governed. The erstwhile Kothari Pioneer (now merged with Franklin Templeton) was the first private sector mutual fund registered in July 1993.
The 1993 SEBI (Mutual Fund) Regulations were substituted by a more comprehensive and revised Mutual Fund Regulations in 1996. The industry now functions under the SEBI (Mutual Fund) Regulations 1996.
The number of mutual fund houses went on increasing, with many foreign mutual funds setting up funds in India and also the industry has witnessed several mergers and acquisitions. As at the end of January 2003, there were 33 mutual funds with total assets of Rs. 1,21,805 crores. The Unit Trust of India with Rs. 44,541 crores of assets under management was way ahead of other mutual funds.

Fourth Phase - since February 2003
In February 2003, following the repeal of the Unit Trust of India Act 1963 UTI was bifurcated into two separate entities. One is the Specified Undertaking of the Unit Trust of India with assets under management of Rs. 29,835 crores as at the end of January 2003, representing broadly, the assets of US 64 scheme, assured return and certain other schemes. The Specified Undertaking of Unit Trust of India, functioning under an administrator and under the rules framed by Government of India and does not come under the purview of the Mutual Fund Regulations.
The second is the UTI Mutual Fund, sponsored by SBI, PNB, BOB and LIC. It is registered with SEBI and functions under the Mutual Fund Regulations. With the bifurcation of the erstwhile UTI which had in March 2000 more than Rs. 76,000 crores of assets under management and with the setting up of a UTI Mutual Fund, conforming to the SEBI Mutual Fund Regulations, and with recent mergers taking place among different private sector funds, the mutual fund industry has entered its current phase of consolidation and growth.

How the mutual fund can work
A mutual fund is a company that pools investors' money to make multiple types of investments, known as the portfolio. Stocks, bonds, and money market funds are all examples of the types of investments that may make up a mutual fund. The mutual fund is managed by a professional investment manager who buys and sells securities for the most effective growth of the fund. As a mutual fund investor, you become a "shareholder" of the mutual fund company. When there are profits you will earn dividends. When there are losses, your shares will decrease in value.

Types of Mutual Funds
The different types of Mutual Funds are as follows -
Equity Funds / Growth Funds
Funds that invest in equity shares are called equity funds. They carry the principal objective of capital appreciation of the investment over a medium to long-term investment horizon. Equity Funds are high risk funds and their returns are linked to the stock markets. They are best suited for investors who are
seeking long term growth. There are different types of equity funds such as Diversified funds, Sector specific funds and Index based funds.

Diversified Funds
These funds provide you the benefit of diversification by investing in companies spread across sectors and market capitalisation. They are generally meant for investors who seek exposure across the market and do not want to be restricted to any particular sector.

Sector Funds
These funds invest primarily in equity shares of companies in a particular business sector or industry. While these funds may give higher returns, they are riskier as compared to diversified funds. Investors need to keep a watch on the performance of those sectors/industries and must exit at an appropriate time.

Index Funds
These funds invest in the same pattern as popular stock market indices like CNX Nifty Index and S&P BSE Sensex. The value of the index fund varies in proportion to the benchmark index. NAV of such schemes rise and fall in accordance with the rise and fall in the index. This would vary as compared with the benchmark owing to a factor known as “tracking error”.

Tax Saving Funds
These funds offer tax benefits to investors under the Income Tax Act, 2961. Opportunities provided under this scheme are in the form of tax rebates under section 80 C of the Income Tax Act, 1961. They are best suited for long investors seeking tax rebate and looking for long term growth.

Debt Fund / Fixed Income Funds
These Funds invest predominantly in rated debt / fixed income securities like corporate bonds, debentures, government securities, commercial papers and other money market instruments. They are best suited for the medium to long-term investors who are averse to risk and seeking regular and steady income. They are less risky when compared with equity funds.

Liquid Funds / Money Market Funds
These funds invest in highly liquid money market instruments and provide easy liquidity. The period of investment in these funds could be as short as a day. They are ideal for Corporates, institutional investors and business houses who invest their funds for very short periods.

Gilt Funds
These funds invest in Central and State Government securities and are best suited for the medium to long-term investors who are averse to risk. Government securities have no default risk.

Balanced Funds
These funds invest both in equity shares and debt (fixed income) instruments and strive to provide both growth and regular income. They are ideal for medium- to long-term investors willing to take moderate risks.

Advantages of mutual fund
As an investor, you would like to get maximum returns on your investments, but you may not have the time to continuously study the stock market to keep track of them. You need a lot of time and knowledge to decide what to buy or when to sell. A lot of people take a chance and speculate, some get lucky, most don’t. This is where mutual funds come in.

Mutual funds offer you the following advantages:
Professional management
Qualified professionals manage your money, but they are not alone. They have a research team that continuously analyses the performance and prospects of companies. They also select suitable investments to achieve the objectives of the scheme. It is a continuous process that takes time and expertise which will add value to your investment. Fund managers are in a better position to manage your investments and get higher returns.

Diversification
The cliché, "don't put all your eggs in one basket" really applies to the concept of intelligent investing. Diversification lowers your risk of loss by spreading your money across various industries and geographic regions. It is a rare occasion when all stocks decline at the same time and in the same proportion. Sector funds spread your investment across only one industry so they are less diversified and therefore generally more volatile.

More choice
Mutual funds offer a variety of schemes that will suit your needs over a lifetime. When you enter a new stage in your life, all you need to do is sit down with your financial advisor who will help you to rearrange your portfolio to suit your altered lifestyle.

Affordability
As a small investor, you may find that it is not possible to buy shares of larger corporations. Mutual funds generally buy and sell securities in large volumes which allow investors to benefit from lower trading costs. The smallest investor can get started on mutual funds because of the minimal investment requirements. You can invest with a minimum of Rs.500 in a Systematic Investment Plan on a regular basis.

Tax benefits
Investments held by investors for a period of 12 months or more qualify for capital gains and will be taxed accordingly. These investments also get the benefit of indexation.

Liquidity
With open-end funds, you can redeem all or part of your investment any time you wish and receive the current value of the shares. Funds are more liquid than most investments in shares, deposits and bonds. Moreover, the process is standardised, making it quick and efficient so that you can get your cash in hand as soon as possible.

Rupee-cost averaging
With rupee-cost averaging, you invest a specific rupee amount at regular intervals regardless of the investment's unit price. As a result, your money buys more units when the price is low and fewer units when the price is high, which can mean a lower average cost per unit over time. Rupee-cost averaging allows you to discipline yourself by investing every month or quarter rather than making sporadic investments.

Transparency
The performance of a mutual fund is reviewed by various publications and rating agencies, making it easy for investors to compare fund to another. As a unitholder, you are provided with regular updates, for example daily NAVs, as well as information on the fund's holdings and the fund manager's strategy.

Regulations
All mutual funds are required to register with SEBI (Securities Exchange Board of India). They are obliged to follow strict regulations designed to protect investors. All operations are also regularly monitored by the SEBI.

Drawbacks of mutual funds
Mutual funds have their drawbacks and may not be for everyone:

- **No Guarantees**: No investment is risk free. If the entire stock market declines in value, the value of Mutual Fund shares will go down as well, no matter how balanced the portfolio. Investors
encounter fewer risks when they invest in mutual funds than when they buy and sell stocks on their own. However, anyone who invests through a Mutual Fund runs the risk of losing money.

- **Fees and commissions**: All funds charge administrative fees to cover their day-to-day expenses. Some funds also charge sales commissions or "loads" to compensate brokers, financial consultants, or financial planners.

- **Taxes**: During a typical year, most actively managed Mutual Funds sell anywhere from 20 to 70 percent of the securities in their portfolios.

- **Management risk**: When one invests in a mutual fund, one depends on the fund's manager to make the right decisions regarding the fund's portfolio.

- **No Customized Portfolio**: The portfolio of securities in which a fund invests is a decision taken by the fund manager. Investors have no right to interfere in the decision making process of a fund manager, which some investors find as a constraint in achieving their financial objectives.

- **Difficulty in Selecting a Suitable Fund Scheme**: Many investors find it difficult to select one option from the plethora of funds/schemes/plans available. For this, they may have to take advice from financial planners in order to invest in the right fund to achieve their objectives.

**Review of literature**

D. Kandavel (2011) in his study looks at the perception level of the retail investors towards investment in mutual funds. The small investors purchase behaviour does not have a high level of coherence due to the influence of different purchase factors. The buying intent of a mutual fund product by a small investor can be due to multiple reasons depending upon customers risk return trade-off. Presently, more and more funds are entering the industry and their survival depends on strategic marketing choices of mutual fund companies, to survive and thrive in this highly promising industry, in the face of such cut-throat competition. Therefore, the mutual fund industry today needs to develop products to fulfill customer needs and help customers understand how its products cater to their needs.

Shafqat Ajaz (2012) in his study says that mutual fund industry plays a pivotal role in the optimal allocation and channelization of available idle resources in the economy. This role becomes much stronger in the developing economies like India where the prospective investors do not have much investment knowledge, information, and facilities to invest in the capital markets nor do they have risk aptitude for direct investments in risky stocks. The present study is pioneer in its nature to investigate the preferences of investors towards mutual fund schemes. The primary data were collected across the states of Jammu & Kashmir and Punjab. The various statistical tools were applied to the data so collected. The findings of the study revealed that investment returns, perception of investors, information sources, investors valuation, investors objectives and investments decisions have significant impact on retail investors preferences.

**Objectives of the study**

1. To evaluate return and risk of selected equity pharma funds and compare the performance with each other and benchmark (BSE-healthcare).
2. To evaluate financial performance of selected schemes through various performance measures.

**Research methodology**

To conduct the study, the researcher selected 3 equity pharma mutual funds. All schemes are growth option schemes and selected using convenient sampling, researcher emphasized only on secondary data. The major source of data is mutual fund insight magazine, Text books, journals, websites and news papers. Period of the study is taken limited for 5 years.i.e. 2010-14.

**Tools used for analysis**

**Portfolio return**

The monetary return experienced by a holder of a portfolio. Portfolio returns can be calculated on a daily or long-term basis to serve as a method of assessing a particular investment strategy. Dividends and capital appreciation are the main components of portfolio returns.
\[ Rp = (\text{NAV}_t - \text{NAV}_{t-1}) + D_t + C_t / \text{NAV}_{t-1} \]

Where \( Rp \) = portfolio return, \( D_t \) = dividend in the form of bonus during the tenure and \( C_t \) = Cash dividend during the period.

**Risk measurement tools**

**Alpha**

Alpha is a measure of an investment's performance on a risk-adjusted basis. It takes the volatility (price risk) of a security or fund portfolio and compares its risk-adjusted performance to a benchmark index. The excess return of the investment relative to the return of the benchmark index is its "alpha." Simply stated, alpha is often considered to represent the value that a portfolio manager adds or subtracts from a fund portfolio's return. A positive alpha of 1.0 means the fund has outperformed its benchmark index by 1%. Correspondingly, a similar negative alpha would indicate an underperformance of 1%. For investors, the more positive an alpha is, the better it is.

**Beta**

Beta, also known as the "beta coefficient," is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Beta is calculated using regression analysis, and you can think of it as the tendency of an investment's return to respond to swings in the market. By definition, the market has a beta of 1.0. Individual security and portfolio values are measured according to how they deviate from the market.

A beta of 1.0 indicates that the investment's price will move in lock-step with the market. A beta of less than 1.0 indicates that the investment will be less volatile than the market, and, correspondingly, a beta of more than 1.0 indicates that the investment's price will be more volatile than the market. For example, if a fund portfolio's beta is 1.2, it's theoretically 20% more volatile than the market.

**Standard deviation**

Standard deviation measures the dispersion of data from its mean. In plain English, the more that data is spread apart, the higher the difference is from the norm. In finance, standard deviation is applied to the annual rate of return of an investment to measure its volatility (risk). A volatile stock would have a high standard deviation. With mutual funds, the standard deviation tells us how much the return on a fund is deviating from the expected returns based on its historical performance.

**Sharpe ratio**

Since the Sharpe ratio was derived in 1966 by William Sharpe, it has been one of the most referenced risk/return measures used in finance, and much of this popularity can be attributed to its simplicity. The ratio's credibility was boosted further when Professor Sharpe won a Nobel Memorial Prize in Economic Sciences in 1990 for his work on the capital asset pricing model (CAPM).

Most people with a financial background can quickly comprehend how the Sharpe ratio is calculated and what it represents. The ratio describes how much excess return you are receiving for the extra volatility that you endure for holding a riskier asset. Remember, you always need to be properly compensated for the additional risk you take for not holding a risk-free asset.

We will give you a better understanding of how this ratio works, starting with its formula:

\[
\text{Sharpe ratio} = \frac{\bar{r}_p - r_f}{\sigma_p}
\]

Where:

- \( \bar{r}_p \) = Expected portfolio return
- \( r_f \) = Risk free rate
- \( \sigma_p \) = Portfolio standard deviation

**Sortino ratio**

Sortino ratio is the statistical tool that measures the performance of the investment relative to the downward deviation. Unlike Sharpe, it doesn't take into account the total volatility in the investment.
Sortino ratio is similar to Sharpe ratio, except while Sharpe ratio uses standard deviation in the
denominator, Frank A Sortino uses downside deviation in the denominator.
Standard deviation involves both the upward as well as the downward volatility.
Since investors are only concerned about the downward volatility, Sortino ratio presents a more
realistic picture of the downside risk ingrained in the fund or the stock.

Sortino is calculated as:

\[ \text{Sortino ratio} = \frac{(R) - R_f}{\text{SD}} \]

where,

\( (R) \): Expected return , \( R_f \): Risk free rate of return , \( \text{SD} \): Standard deviation of the Negative Asset
Return.

Data analysis and interpretation:
From the tables (see Annexure), it was observed that
1. The SBI pharma fund has offered highest returns (28.66%) than other pharma funds. The SBI
pharma returns crossed Benchmark (BSE-HEALTHCARE) returns (25.89%).
2. The Reliance Pharma fund has offered worst returns (-11.99%) in 2011.
3. The SBI pharma fund ranks (according to Sharpe ratio) toped among the four funds because of the
higher returns and high volatility in return.
4. During the study period UTI pharma has worst performer as per Sharpe ratio.
5. According to Treynor ratio SBI pharma fund (rank=1) has performed better than other funds.
6. The BENCHMARK-HEALTH CARE got second rank as per treynor ratio.
7. Coming to Jenson ratio, the SBI pharma fund stands a top rank one and UTI pharma fund stands last rank.
8. As per the sortino ratio, the SBI pharma fund got first rank and UTI pharma got last rank.
9. In terms of standard deviation, the SBI pharma fund has highest volatility than others.
10. The SBI pharma fund has highest beta value than compare to other funds.

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## ANNEXURE

### TABLE-1

<table>
<thead>
<tr>
<th>YEAR</th>
<th>SBI-PHARMA FUND (%)</th>
<th>RELIANCE-PHARMA FUND (%)</th>
<th>UTI-PHARMA FUND (%)</th>
<th>MARKET INDEX-BSE HEALTH CARE (%)</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>29.57</td>
<td>31.20</td>
<td>36.83</td>
<td>32.84</td>
</tr>
<tr>
<td>2012</td>
<td>37.50</td>
<td>34.61</td>
<td>23.80</td>
<td>32.08</td>
</tr>
<tr>
<td>2013</td>
<td>25.55</td>
<td>19.74</td>
<td>22.83</td>
<td>23.04</td>
</tr>
<tr>
<td>2014</td>
<td>56.27</td>
<td>48.72</td>
<td>43.18</td>
<td>50.54</td>
</tr>
<tr>
<td>Average returns (%)</td>
<td>28.66</td>
<td>24.53</td>
<td>23.33</td>
<td>25.89</td>
</tr>
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</table>

### TABLE-2

<table>
<thead>
<tr>
<th>S.NO</th>
<th>FUND NAME</th>
<th>SHARPE RATIO</th>
<th>RANK</th>
<th>TREYNO R RATIO</th>
<th>RANK</th>
<th>JENSON RATIO</th>
<th>RANK</th>
<th>SORTINO RATIO</th>
<th>RANK</th>
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<tbody>
<tr>
<td>1</td>
<td>SBI PHARMA FUND</td>
<td>1.62</td>
<td>1</td>
<td>24.52</td>
<td>1</td>
<td>4.31</td>
<td>1</td>
<td>3.99</td>
<td>1</td>
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<tr>
<td>2</td>
<td>RELIANCE PHARMA FUND</td>
<td>1.57</td>
<td>2</td>
<td>19.64</td>
<td>3</td>
<td>1.10</td>
<td>2</td>
<td>3.52</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>UTI PHARMA FUND</td>
<td>1.37</td>
<td>4</td>
<td>17.48</td>
<td>4</td>
<td>-1.12</td>
<td>3</td>
<td>2.79</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>BENCHMARK (BSE HEALTH CARE)</td>
<td>1.53</td>
<td>3</td>
<td>20.28</td>
<td>2</td>
<td>1.10</td>
<td>2</td>
<td>3.44</td>
<td>3</td>
</tr>
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### TABLE-3

<table>
<thead>
<tr>
<th>S.NO</th>
<th>FUND NAME</th>
<th>STANDARD DEVIATION</th>
<th>BETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SBI PHARMA FUND</td>
<td>16.77</td>
<td>0.96</td>
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<td>2</td>
<td>RELIANCE PHARMA FUND</td>
<td>14.07</td>
<td>0.83</td>
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<tr>
<td>3</td>
<td>UTI PHARMA FUND</td>
<td>15.10</td>
<td>0.93</td>
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<tr>
<td>4</td>
<td>BENCHMARK (BSE HEALTHCARE)</td>
<td>15.13</td>
<td>0.89</td>
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</tbody>
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### TOP 5 HOLDINGS IN PORTFOLIO

### TABLE-4

<table>
<thead>
<tr>
<th>S.NO/FUND NAME</th>
<th>SBI PHARMA FUND</th>
<th>RELIANCE PHARMA FUND</th>
<th>UTI HEALTH &amp; PHARMA FUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sun Pharmaceuticals Ltd</td>
<td>Abbott India Ltd</td>
<td>Sun Pharmaceuticals Ltd</td>
</tr>
<tr>
<td>s.no</td>
<td>Fund name</td>
<td>Launch date</td>
<td>Net assets(Rs crore)</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------</td>
<td>-------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>1</td>
<td>SBI PHARMA FUND</td>
<td>July-14,1999</td>
<td>630</td>
</tr>
<tr>
<td>2</td>
<td>RELIANCE PHARMA FUND</td>
<td>Jun-05, 2004</td>
<td>1321</td>
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<tr>
<td>3</td>
<td>UTI PHARMA FUND</td>
<td>Jun-28,1999</td>
<td>279</td>
</tr>
</tbody>
</table>

TABLE-5

2 Aurobindo Pharma Ltd  Sun Pharmaceuticals Ltd  Dr Reddy Laboratories Ltd
3 Lupin Ltd  Divi’s Laboratories Ltd  Lupin Ltd
4 Strides Arcolab Ltd  Cadila Healthcare Ltd  Cipla Ltd
5 Torent Pharmaceuticals Ltd  Lupin Ltd  Aurobindo Pharma Ltd