

ANIL SURENDRA MODI SCHOOL OF COMMERCE
NMIMS UNIVERSITY

Subject: Investment Analysis & Portfolio Management

Name of the Fund: Natus Vincere Equity Fund

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EXECUTIVE SUMMARY

The report is a specimen of a fund which targets high net worth individuals who have a high appetite for risk but look for higher returns. The report shows the stocks and the sectors where the fund will invest. The fund's main interest is to get those stocks which will provide capital appreciation. The portfolio uses a top down investment approach and initially chooses stocks from many diversified sectors which includes pharmaceuticals, IT, finance, FMCG and chemicals.

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1. INTRODUCTION

Financial markets are the backbone of each economy. The booming Indian financial market features a lot to try and do with the booming Indian economy. one amongst the important functions of the financial market is to show the savings of the people into investments in corporate. In India the emergence of an array of savings and investment options and therefore the dramatic increase within the secondary marketplace for financial assets within the recent years has opened such a lot of new avenues. The Indian investment company industry has marched in step with the country's booming capital market. Mutual funds are the simplest option for a private who doesn't have time, knowledge, experience in market etc. Mutual funds have come, as a much-needed help to those investors. Mutual funds help small and medium size investors to participate in today's complex and modern financial scenario. they'll participate in an exceedingly investment trust by buying the units of the fund. The income earned through these investments and therefore the capital appreciations realized by the schemes are shared by the unit holders in proportion to the quantity of units owned by them. Mutual funds play an important role within the mobilization of resources and their efficient allocation. These funds play a major role in financial intermediation, development of capital markets and growth of the financial sector as a full. Mutual funds have proved to be a lovely investment for several investors, the globe over, since they supply them a mix of liquidity, return and safety in accordance with their performance. Further, the investor obtains these benefits without directly having a diversified portfolio, which is handled by specialists. The interests of varied investors are generally protected through mutual funds. As individual investors, they'll not hold much clout in companies whose shares they hold, but by being a part of institutional investors like mutual funds, their bargaining power is enhanced.

A mutual fund is an investment vehicle that is made up of a pool of funds collected from many retail and institutional investors for the purpose of investing in securities such as stocks, bonds, money market instruments and similar assets. Mutual funds are operated by fund managers who invest the fund's capital and attempt to produce capital gains and income for the investors. Mutual funds have their own set of advantages and disadvantages when compared to direct investing in individual securities. The primary advantages of mutual funds include; economies of scale, a higher level of diversification, provide liquidity, and are managed by professional investors. On the flip side, investors in a mutual fund are required pay various fees and expenses. Primary structures of mutual funds include open-end funds, unit investment trusts, and closed-end mutual funds. Exchange-traded funds (ETFs) are open-end funds or unit investment trusts that trade on exchanges. Unit Trust of India (UTI) was first introduced as mutual funds in India by GOI.

Till 1987 UTI had a monopoly in the mutual fund market in India. After 1987 other government-controlled Indian financial companies established their own funds, namely, SBI, Canara Bank, and PNB. Despite the availability in the market, less than 10% of Indian households have invested in mutual funds. A recent report on Mutual Fund Investments in India published by research and analytics firm, Boston Analytics, suggests investors are holding back from putting their money into mutual funds due to their perceived high risk and

lack of knowledge on how mutual funds work. The primary reason for not investing appears to be somewhat correlated with city size.

Among respondents with a high savings rate, near 40% of these who stay in metros and Tier I cities considered such investments to be very risky, whereas 33% of these in Tier II cities said they didn't know, how or where to take a position in such assets. the govt of India has been taking significant initiatives to strengthen the economic credentials of the country and make it one among the strongest economies within the world. India is fast becoming a home to start-ups focused on high growth areas like mobility, ecommerce and other vertical specific solutions - creating new markets and driving innovation.

Types of Mutual Funds

1. By Structure of Scheme
 - a. Open Ended
 - b. Close Ended
 - c. Interval
2. By Style of management
 - a. Actively Managed Schemes
 - b. Passively Managed Schemes
3. By Category of the Scheme
 - a. Equity Schemes
 - b. Debt Schemes
 - c. Hybrid Schemes
 - d. Solution Oriented Schemes
 - e. Other Schemes

In this report we are majorly going to talk about Equity Schemes.

Equity Schemes: An equity scheme must invest min 65 of its assets in equity or equity related securities.

- a. Large Cap Funds - min 80 investment in large cap cos

An open-ended equity scheme is mostly investing in large cap stocks. This type of fund offers stability and returns, over a period of Time. Large Cap companies are usually very steady and dominate their industry. Large cap stocks tend to hold up better in recessions, but they also tend to underperform small cap stocks when the economy emerges from a recession.

Large cap is less volatile than mid cap and small cap stocks and are therefore considered less risky.

Example: ICICI Prudential Bluechip Equity Fund

- b. Mid Cap Funds - min 65 investment in mid cap cos

An open-ended equity scheme is mostly investing in mid cap stocks. Mid cap cos is considered as emerging companies. Mid cap stocks are riskier than large cap stocks but less risky compared to small cap stocks. Mid cap stocks, though, they tend to offer extra growth potential than large cap stocks.

Example: HDFC Midcap Opportunities Fund

c. Small Cap Funds - min 65 investment in small cap cos

An open-ended equity scheme is mostly investing in small cap stocks. Small cap cos are young cos with substantial growth potential. The peril is greater with small cap stocks than with large cap and mid cap stocks. As a result, small cap stocks are more volatile than large cap and mid cap stocks. Historically, small cap stocks have characteristically underperformed large cap stocks during recessions but have outperformed large cap stocks as the economy has emerged from recessions. While the chance for these companies to experience extreme growth is excessive, the risk to lose a large amount of money is also possible.

Example: ICICI Prudential Smallcap Fund

d. Large and Mid-cap Funds: min 35 in large cap cos and mid cap cos each

An open-ended equity scheme capitalizing in both large cap and mid cap stocks.

Example: ICICI Prudential Large and Midcap Fund

e. Multi Cap Funds – min 65% in equity

An open-ended equity scheme is investing across large cap, mid cap and small cap stocks. These funds provide the advantage of diversification by investing in firms across sectors and market capitalisation. They are usually meant for investors who wants exposure across the market and do not want to be limited to any particular sector. They invest in businesses across different market caps and hence reduce the amount of risk in the fund. It helps to prevent events that could affect a single sector for affecting the fund, and hence reduce risk.

Example: IDFC Multicap Fund

f. Dividend Yield Funds – min 65% investment in Dividend yielding cos

An open-ended equity scheme mainly investing in dividend yielding stocks is dividend Yield Funds.

Example: ICICI Prudential Dividend Yield Fund

g. Value Funds – min 65% investment in equity

An open-ended equity scheme succeeding a value investment strategy is value Funds

Example: ICICI Prudential Value Discovery Fund

h. Contra Funds – min 65% investment in equity

An open-ended equity scheme succeeding continuous investment plan is contra funds

Example: Invesco India Contra Fund.

i. Focused Funds – min 65% investment in equity

An open-ended equity scheme in which investment is done in maximum 30 stocks is focused Funds

Example: ICICI Prudential Select Large Cap Fund

- j. Sectoral/Thematic funds – min 80% investment in a particular sector or theme
An open-ended equity scheme where investment is done in a particular theme/ sector. As such mutual funds consists mainly of investment in one specific type of sector, they offer less amount of diversification and risky.
The performance of these funds is aligned with the performance of the sector in which they are investing.
Example: Reliance Banking Fund
- k. Equity Linked Savings Schemes (ELSS)- min 80% investment in equity as per ELSS guidelines, 2005 notified by Ministry of Finance
An open-ended equity linked saving scheme with a lock in period of 3 years and tax benefit up to Rs 1.50 lakhs under section 80 C of the Income Tax Act, 1961
Example: ICICI Prudential Long-Term Equity Fund (Tax Saving)

2. FUND DETAILS

2.1 Name of Fund: NATUS VINCERE EQUITY FUND

2.2 Investment Policy:

The fund is designed to invest in a diversified portfolio that gives exposure to the domestic market through investments in equity, equity related instruments and indices in combination in small-cap, mid-cap and large-cap stocks. Fundamental aim of the fund will be to invest using aggressive strategies to capitalise on every market opportunity and make as much of capital appreciation as possible.

The investment criterion is based on the risk appetite of the investors and objective remains to generate high returns but within the given range of risk suited for the investor group.

Consistent with the purpose of diversification and limiting risk the portfolio predicts that expected variations of returns for the average portfolio of the fund. Focusing on volatility and risk it is necessary to note that a real or nominal target is just a target and it is not necessary that such a target will be achieved in any given year, but rather that such a return might anticipated on average of multiple years. It must also be noted that the normal behaviour of an investment requires that any required target return be linked with some level of risk. The asset allocation ranges of this portfolio represent a medium to long term time horizon. However, because of unexpected, unanticipated market shift may cause real investments to shift beyond the ranges specified. The portfolio consists of a medium to long term time horizon consisting of higher risk but higher returns.

2.2.1 **Objective of the fund:**

1. To create and Preserve Wealth

The main aim of this fund is to preserve the wealth of the investor and provide growth opportunities over a long period. India's wealthy elite are cash and asset rich, but these people are also time poor. Hence, we take on the responsibility to not only preserve but also to grow their wealth.

2. To Give domestic market Exposure

Our fund offers investors the benefit of investing predominantly in Indian equity market, and with our assistance, technology and human capital our investors will remain ahead of the hype trains and maximise their returns. Staying exclusive to the domestic market will also prevent investors from unexpected shocks in global markets and will allow us to deploy all our facilities on the Indian market and track the domestic market efficiently.

3. To Provide Liquidity

Our aim is to provide maximum liquidity to the investors with the necessary exit load to encourage more participation and flexibility.

We also aim to ease the process of investing.

4. To Ensure Adequate Transparency

As per a survey conducted by IIFL in partnership with Wealth – X indicated that an overwhelming 86% of wealthy Indians check on their investments regularly and 97% of UHNWIs also do so. This high level of engagement stems from an inherent mistrust of developing responsibility for wealth management to a third party. Hence, we ensure that each and every proceeding of ours' is transparent so that investors get a sense of safety for their investments.

5. Philanthropic Activity

Along with meeting investment targets, ultra HNIs are also interested in taking active part in philanthropic activities. Impact investing, which means investments made with an objective to generate social or environmental impact along with financial return is gaining popularity. Hence, we also take conscious efforts to try and include stocks in our portfolios that have shown responsibility towards the environment. In order to compare the stocks, we have considered Environmental, Social and Governance score (ESG), which is a score calculated by Bloomberg for all publicly listed companies by taking into consideration various factors of the Environmental score. Bloomberg will crunch thousands of companies' Environmental Social and Governance disclosure performance into one number which is called the disclosure score.

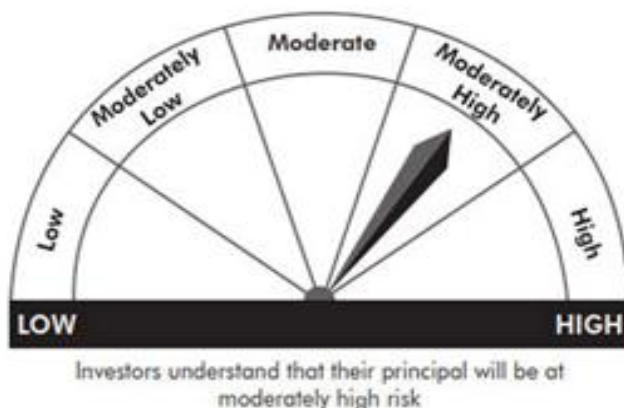
6. Sector Diversification

It is a common principle known by all investors that one should not put all their eggs in one basket. If investors maintain their funds in positively correlated or similar asset classes, it can be severely hit by just one confounding variable, leading all of their assets to go through tremendous losses. So the sectors which are chosen to diversify should be least correlated with the existing sectors so as to achieve the main aim of diversification.

2.2.2 Target customer:

The fund facilitates with an intention to serve a clientele of High Net-worth Individuals who have the stamina and potential to commit to a long-term investment perspective. In 2019, India estimates 2.84 lakh wealthy individuals with a combined fortune of Rs. 95 trillion. By 2021, that figure is expected to reach Rs. 188 trillion. With the prospect of this market doubling in its size, HNIs as of now are an attractive customer base for a mutual fund. HNIs are the people who have excessive and substantial amount of resources to invest and the main objective of investments for them is not just safety but income from investments and capital appreciation. They are normally not concerned with the safety of their capital and generally have high risk appetite. They can invest in high risk instruments. Usually, higher the risk, higher the returns. As these investors are looking for capital appreciation and have excessive resources, they can afford higher risks. However, the fund is not restricted to such individuals. Retail investors possessing risk taking capacity as well as retail investors seeking long term returns are also welcome however such individuals must only invest after evaluating the amount of risk they would like to take.

Risk-o-meter



Risks of investing

Any person interested in investing in the fund should also look into the 'Risk Factors' and make their choice accordingly. These 'Risk Factors' have an adverse effect on the fund and usually affect the redemption value of the securities. They are as follows:

1. **Market Risk** - We all would have seen that one-liner in all advertisements that mutual funds are subject to market risk. Market risk is the possibility of an investor incurring losses due to external factors that affect the performance of the financial markets in which the investor is involved. Market risk, also called "systematic risk," cannot be eliminated through diversification, though it can be hedged against in other ways. Sources of market risk include recessions, political turmoil, changes in interest rates, natural disasters and terrorist attacks. This kind of risk tends to affect the entire market at a similar time.
2. **Liquidity Risk** - Liquidity risk refers to the difficulty to redeem an investment without incurring a loss in the value of the instrument
3. **Regulatory Risk** – It the risk of an adjustment in guidelines and law that may influence an industry or a business. Such changes in guidelines can roll out critical changes in the system of an industry, changes in cost-structure, etc.
4. **Large Transaction Risk** – It is the exposure to uncertainty variables and factors that may affect the expected risk
5. **Time Risk** – As market conditions and companies change with time, there is a higher probability that the initial transaction agreement conditions will become unfavourable the longer the time period is extended.

2.2.3 Type of fund:

In the market there are various kinds of funds such as money market funds, fixed income funds, equity funds, balanced funds, index funds, specialty funds, etc.

Natus Vincere Equity Fund is an equity fund, more accurately it is an open-ended aggressive equity growth fund.

Since High Net worth Individuals look for long term investment opportunities and expect capital appreciation in return, this will be ideal for them.

What is an open-ended mutual fund?

This kind of fund is traded at times which will be dictated by the fund manager, there is no limit on the number of shares issued and the prices for the fund is fixed once a day at their NAV, and it reflects the fund's performance.

Open-end mutual fund are more common then closed-end funds. It is a diversified portfolio of the pool of money of investors by which end number of shares can be issued. It allows the

investors to enter and exit the fund any time after the NFO and when the investor will redeem their units, those mutual fund units will be taken out of the circulation. Open-ended mutual funds will give our investors will the benefit of high liquidity, as they can redeem their units any time the want at the NAV (net asset value) of the day when units are being redeemed. It allows the investors to take more well-informed decisions as they can track the performance record of the fund. Lastly it helps investor to make use of systematic plans for investment and withdrawal purposes, both.

The ‘aggressive equity growth’ indicates that our fund is on the riskier side when choosing where to invest compared to most other funds in the market. It is designed in such a way in order to make steep monetary gains. We will predominantly invest in equities and the primary objective is capital appreciation or wealth creation.

The above mentioned fund type is selected because it best matches the needs of our customer base which is to generate higher returns.

Plan and options:

- Investing through two different routes i.e. LUMPSUM and SIP
- Re-investing dividend paid by stocks making it a dividend reinvestment scheme
- Investor is given two options: Dividend pay-out or dividend reinvestment

2.2.4 Investment Strategy

The fund uses a combination of Fundamental analysis, Top Down investing strategy, and Bottom Up strategy for selection of asset classes.

Fundamental analysis looks at company’s fundamentals such as financial and economic factors that affect the returns generated. The factors taken into consideration by the fund are market capitalization, return pattern over a 5-year period, and financial parameters such as Price-to-Earnings ratio, Net Profit Margin, Return on equity, Current ratios, and Debt ratios.

Price-to-Earnings ratio or P/E Ratio is the ratio of the current price of a firm’s share with respect to its Earning Per Share (EPS). A high P/E ratio could mean that the firm’s stock is over-valued, or the investors are expecting a higher growth rates in future. Companies that are incurring a loss do not have a P/E ratio since they have no earnings.

$$\text{P/E Ratio} = \text{Market price of a share} / \text{Earnings per share}$$

The net profit margin is a profitability ratio that expresses the profits from the business operations as a percentage of revenue or that of the net sales. It caters for all expenses that a

business faces, and not just the cost of goods sold (COGS). Net profit margin is also referred to as net margin.

$$\text{Net Profit Margin} = (\text{Revenue} - \text{COGS} - \text{Expenses} - \text{Interest} - \text{Tax}) / \text{Revenue} * 100$$

Return on equity ratio is a financial ratio that helps to measure a company's ability to generate profits from its shareholders' investments.

This profitability helps measure a firm's effectiveness when it comes to using equity funding to run their day-to-day operations. ROE ratio also helps the company understand how it compares to other firms in the same industry. It also helps them in evaluating the company's financial performance and asset valuation.

$$\text{Return on equity} = \text{Net income} / \text{Average shareholder's equity}.$$

Current ratio is a liquidity ratio that helps to measure a company's capacity to pay the current liabilities that it has, with cash that is generated from its current assets. It is calculated by dividing the current assets by the current liabilities of the firm. Current assets are the assets that are expected to be converted to cash within a normal operating cycle. Current assets consist of cash and cash equivalents, marketable securities, short term investments, short term portion of notes receivable, accounts receivable, inventories, and short-term pre-payments. Current liabilities are onuses that require settlement within the normal operating cycle of the company. Current liabilities consist of accounts payable, salaries payable, wages payable, current tax payable, sales tax payable, and accrued expenses.

$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$$

The debt ratio is a financial leverage ratio that measures the portion of a firm's assets that are funded by debts or liabilities. A company with a high debt ratio is referred to as a leveraged firm. A debt ratio greater than 1 shows that a significant portion of debt is funded by assets. In other words, the firm has more liabilities than the assets. A high ratio also implies that the company may be putting itself at a risk of default on the loans that it has taken if the interest rates were to rise all of a sudden. A ratio less than 1 indicates that a greater portion of the firm's assets are funded by equity. The debt ratio is commonly known as the debt-to-assets ratio.

$$\text{Debt Ratio} = \text{Total Liabilities} / \text{Total Assets}$$

The top down strategy element entails that the fund manager selects stocks on the anticipation of whether a certain sector in the economy will face a sharp increase and outperform other sectors.

Through the bottom up strategy element of the fund includes that the fund managers make the selection of stock based on strength of an individual company and their prospects and projects and reaping the benefits that follow. Bottom up approach benefits from detailed

research of an individual company but a sharp market decline can pull down the strongest of companies; therefore, thorough research must be done before any asset is selected using this method.

The fund has a policy of using measures such as Sharpe's Ratio, Treynor's Ratio and Jensen's Alpha in order to efficiently measure the fund's performance.

a) Short Term

The portfolio will be constructed in such a manner that it reduces the risk of the investors. This can be done in the following ways-

Diversifying the portfolio because it helps to spread risk by investing in a variety of securities. Investments in the same asset class can have different patterns of risk and return because of which the poor performance of one sector can often be offset by the good or stable performance of another sector.

Secondly, keep reviewing the industry, sector, market, and economic factors that affect the portfolio on a regular basis. Also, the stocks under the scheme must be selected after thorough fundamental research.

The strategy is to maximize risk while also trying to minimize risk, so that the investment proves to be profitable.

b) Intermediate Term

Investment will be made on stocks that have future growth potential. This is done by doing a detailed study of each company and the industry that they operate in. Unless the managers are not satisfied with all the aspects, the company will not be selected for investment.

Stocks should not be sold simply because it feels that there is a lack of integrity. Understanding the difference between lack of integrity and poor judgment is crucial. This can be used not only to enhance returns in the long run but also to avoid losses.

Secondly, the compounding of interest can have a huge favourable impact on the value of an investment in the long run. The value of the investment can multiply when return is earned on previous returns also. Instead of growing at a stable rate, the amount of money in the portfolio will rise at an accelerating rate.

Also, monetary incentives have a large impact on the thinking of people. This turns out to be particularly true when sellers of investment products are willing to say anything and everything to sell their product. If one fails to spot the difference between these motives, it

can be very harmful for one's investments. These differences need to be spotted by the investor themselves to save themselves from the inefficient investments.

c) Investment Diversification

The fund will be diversified by investing across different sectors to reduce risk.

This will be done in following ways- All the wealth would not be invested in one stock; rather it will be spread across certain number of companies that are known and trusted. Instead of investing a lump sum amount at once, investment would be made at regular intervals, which will reduce the risk of market volatility for the investments. Also, a long-term exposure to a single stock would be avoided since a buy and hold strategy does not always work. The fund will restrain from investing in illiquid and high fee investments because those stocks are extremely risky.

Creating a portfolio that includes a number to different asset classes from more than one single industry leads to diversification. The fund aims to diversify the portfolio across these sectors so that loss in one sector does not affect the performance of others in a major way.

Diversification of funds is more stable and reduces the time that is spent in monitoring the portfolio. This is because if the investor invests only in equity shares, a lot of time will be consumed in studying the market and analyzing the next step. Similarly, if investment is made only in low risk funds, investor will spend his/her time in worrying about the avenues to increase the returns. Thus, diversification helps in saving time and does require too much attention. Therefore, the investor can be free of stress and worry, as the total investment is divided amongst several asset classes.

d) Finance and Audit Committee Approval

The Audit and Finance Company has reviewed our fund and approved the requirements as per securities law, for our fund. The audit committee is built up with the goal of improving trust in the respectability of an organization's procedures and methods, along with internal control and corporate announcements including monetary reporting. Therefore, the audit committee has established itself as one of the fundamental bodies of the corporate administration framework among Indian organizations.

The audit committee is responsible for checking and verifying all the undertaken investment strategies. All the norms as ordered by authorities like SEBI and RBI are duly complied with. The committee is dependable on the financial auditors that guarantee that the financial statements are arranged and submitted on a timely manner.

The disclosures made are true, fair, and adequate for investors to make a well-informed decision as whether to invest in the proposed funds or not.

e) Investment Responsibilities

Responsibilities of the fund managers are as follows -

- **Objectives-** The managers have the right under the provisions of this policy to sell, purchase or retain the specific securities that may be used to fulfil the fund's investment objective. Managers are accountable for observance of these guidelines and shall be responsible for achieving the objectives assigned to them.
- **Strategies-** The fund manager is responsible for implementing a fund's investing strategy and for managing the investor's portfolio. It also requires them to actively monitor the market, volatility in the market, economic trends and to track securities in order to make informed investment decisions. The fund manager needs to make sure that their portfolio is ahead of its benchmark.
- **Compliance-** To ensure that the fund operates in accordance with the regulations prescribed by governing authorities, the fund managers need to review and update their corporate governance at regular time intervals.
- **Security-** The fund managers have a responsibility to maintain the possession of securities under the funds, collect interest and dividend payment, redeem maturing securities and delivery and receipt following sales and purchases. They may also perform regular bookkeeping of all assets owned, purchased, or sold, as well as movement of assets in and out of the funds account. Investments that are made should be backed with strong research and regressive due diligence.
- **Wealth Protection-** It is the duty of fund managers to protect the wealth and money of the investors. Even though some funds are prone to some risks, so as to yield higher returns, the fund managers must not be subjected to reckless risk taking. An absence of detection of any fraudulent practices that can harm the funds, or its holders must be thoroughly checked.
- **Performance-** The fund manager is responsible for a fund's performance and therefore should look for optimized returns along with managing the risks that may follow. They need to focus on parameters such as Price to Earnings ratios, earnings, sales, and other such parameters. They must track the financial results of the companies in the portfolio and decide which stocks will be included in the scheme.

- Administration and Oversight- The fund managers must get assistance from various professionals and firms so that they can deliver utmost quality. Certain duties such as negotiation with brokers, issuing annual reports, getting capital, etc. can be outsourced, so that fund managers can focus more on intensive responsibilities.

3. LIST OF ASSETS/ASSET CLASS AND JUSTIFICATION

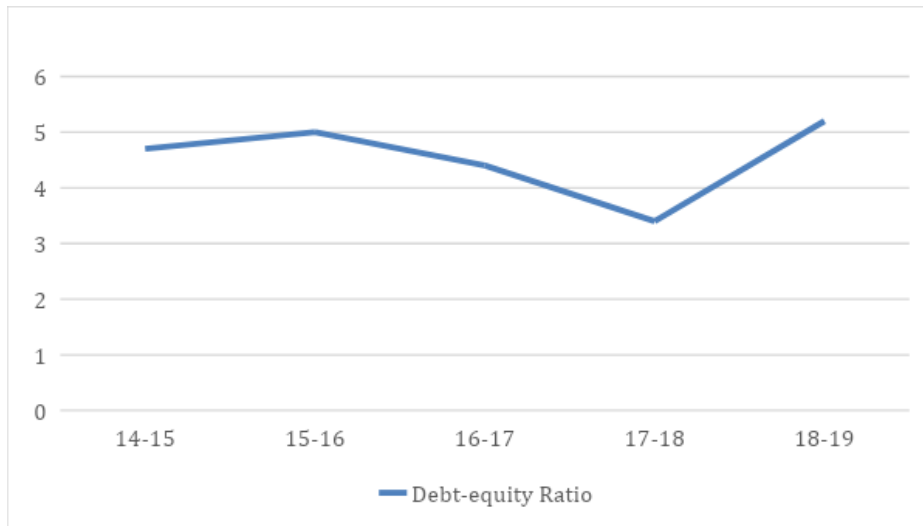
1. Bajaj Finance – Financial Services sector

Based on our analysis, Bajaj finance is a fundamentally strong stock with high growth potential within the financial services sectors. We have selected this particular stock in the NBFC sector for the following reasons –

- They have stable financial management and derive constant cash flows predominantly from their leasing and hire purchase services.
- Leasing is currently a central part of the Indian financial system and is expected to form an integral part of the financial system in the future as well.
- In terms of YoY growth, the NBFC sector beat the banking sector in most years between 2006 and 2013. On an average, it grew 22% every year. This shows, it is contributing more to the economy every year.
- In terms of profitability, NBFCs are more profitable than the banking sector because of lower costs. Due to lower interest rates on loans to customers, credit growth of NBFC sector is projected to be higher than that of banking sector.
- Fixed-rate leasing which comprises a majority of the business makes budgeting easy as the company has clear sight of constant future cash flows in the form of recurring interest payments from customers.
- Catering to MSMEs which is growing to become an important part of the economy works in favour of the company.
- In forms of business where mass distribution or economies of scale is possible, the larger firms will prevail over the smaller ones. Hence, having a good market share and being a subsidiary of Bajaj finserv works in favour of the company.
- In the recent and upcoming years India's economic and industrial development is directed to adopting new technology in all fields to be competitive in the markets, the importance of lease finance looks promising in the future.

Taking into account key financial ratios, we have analysed the financial position of the company as healthy and project the company as sustainably profitable in the long term for the following reasons-

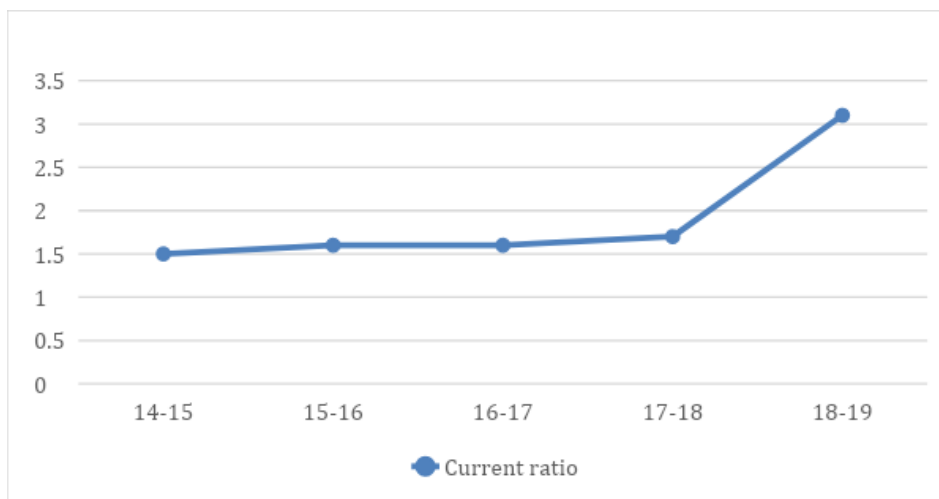
- Debt-Equity Ratio – Bajaj Finance has shown an average ratio of 4.54, Debt-to-Equity ratio varies across industries and the company shows a ratio below the industry standard of 5.4.



Source:

<https://trendlyne.com/fundamentals/annual-results/150/BAJFINANCE/bajaj-finance-ltd/>

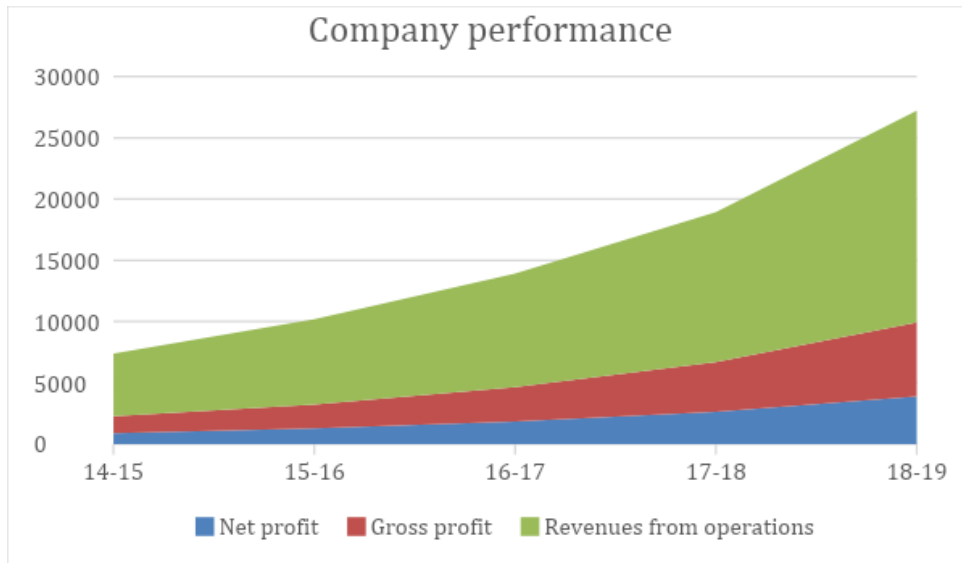
- Current Ratio – A company having current ratio above 1.5 is said to be in a good financial position. Bajaj Finance has an average current ratio of 1.9. In the Financial Year 2018-19, the company has reported a jump in Current ratio to 3.1. Taking into consideration the balance sheet of the company, we can ascertain that this increase in current ratio is supported by an increase in current assets while managing to keep current liabilities low. This is a positive financial sign for the company.



Source:

<https://trendlyne.com/fundamentals/annual-results/150/BAJFINANCE/bajaj-finance-ltd/>

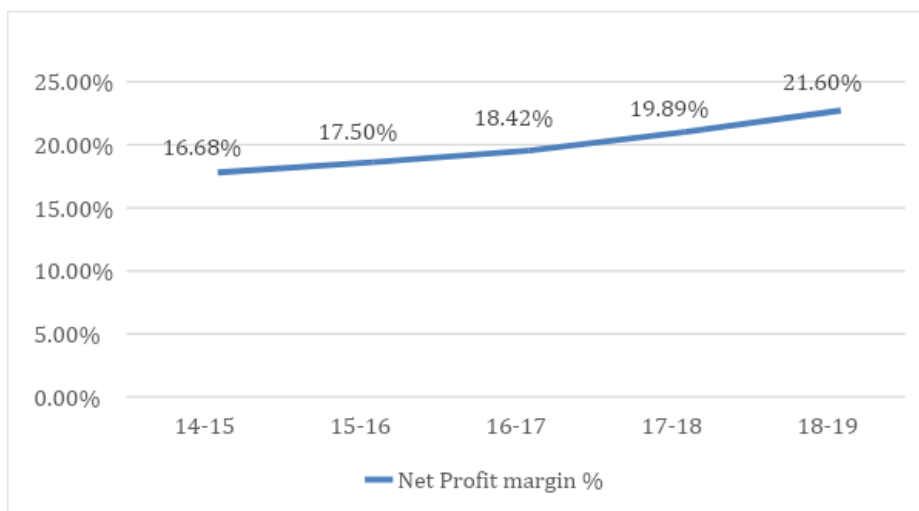
- Company performance – Taking a holistic view of the company's gross revenues from operations and profit margins continue to be in an uptrend. Watching the overall performance of revenue and profit, we can predict that the company shall continue to grow in the near future.



Source:

<https://www.moneycontrol.com/financials/bajajfinance/profit-lossVI/baf/1#baf>

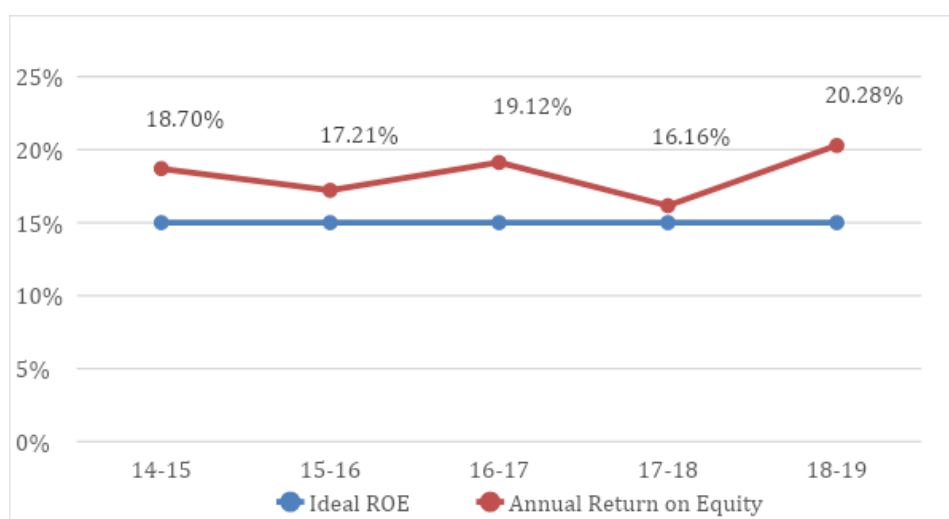
- Consistent Net profit margins year over year- company has shown stable average growth of 18.79% Year over Year.



Source:

<https://trendlyne.com/fundamentals/annual-results/150/BAJFINANCE/bajaj-finance-ltd/>

- Return on equity- A company should ideally have a ROE of at least 15% to remain profitable and increase shareholders' wealth in the long term. Company has produced stable returns on equity which shows that the shareholders' money is being employed effectively.



Source:

<https://trendlyne.com/fundamentals/annual-results/150/BAJFINANCE/bajaj-finance-ltd/>

On the basis of the mentioned parameters we have deemed Bajaj Finance as a moderately risky asset with potentially high returns.

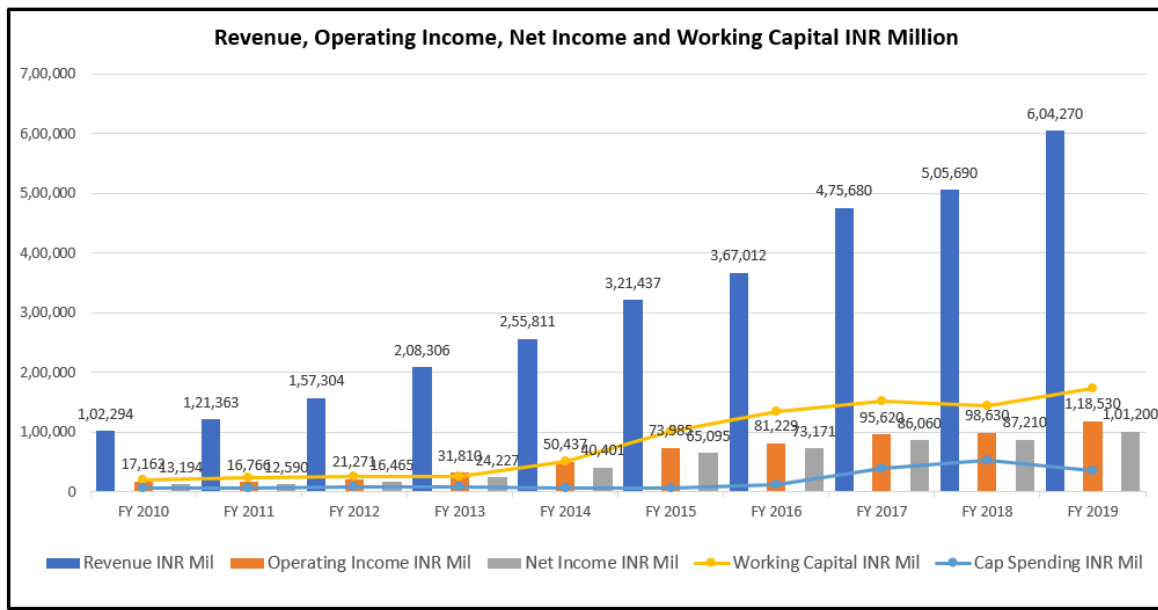
2. HCL Technologies – Information Technology Sector

Based on our analysis, HCL Technologies Ltd. is a fundamentally strong stock with high growth potential within the IT sector. We have selected this particular stock in the IT sector for the following reasons-

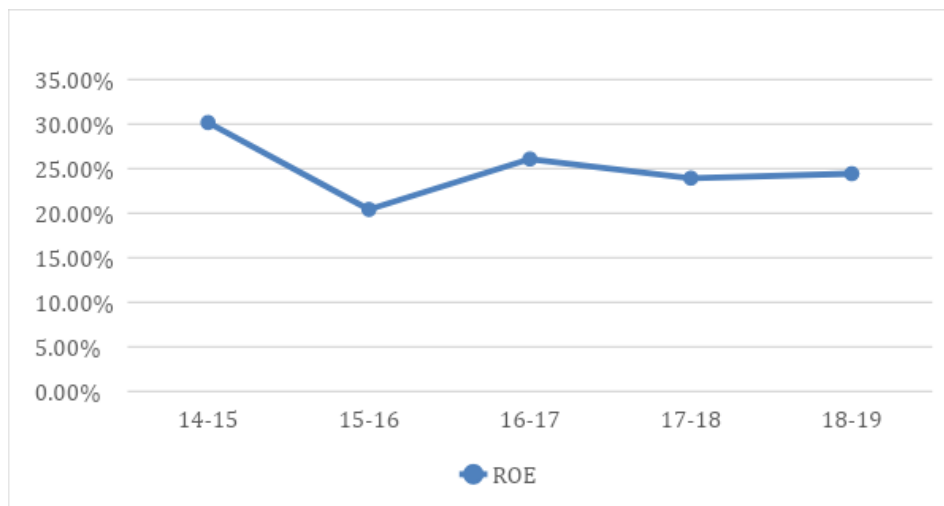
- In the IT sector market share and dominance is achieved by technical know-how and collaborations with global players. The company has strategic partnerships with global giants like Google, IBM, Cisco, HP, Microsoft and Dell.
- In the current scenario export of services is becoming a major income stream for IT companies and the company has the technical expertise, manpower and digital infrastructure to execute large scale IT projects across the world.
- Business model is shaped in such a way that the overall business is well diversified in terms of the clientele and the services provided. The top 20% of clients contribute towards 32% of their business.
- Average growth rate of IT sector in the period from 2014-2019 has been 21.46% with an annual revenue of over \$180 bn in FY 19.
- With an increase in global demand for IT services and India emerging as a hub of IT related consultancy and services the future growth of the company is expected to be in an uptrend.

Taking into account key financial ratios, we have analysed the financial position of the company as healthy and project the company as sustainably profitable in the long term for the following reasons-

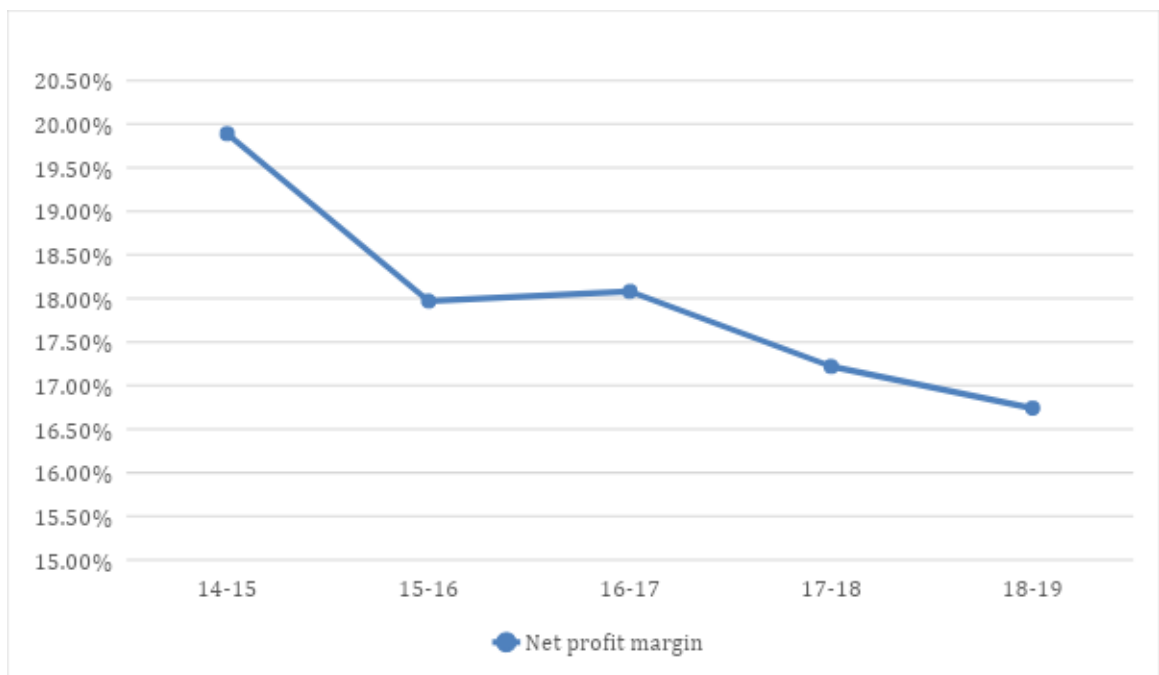
- Sustainable growth – Revenue has been growing at 20% CAGR over the last decade. This coupled with a consistent revenue from operating activities shows that the company is improving its profitability and efficiency. Working capital is also positive and has shown steady growth.



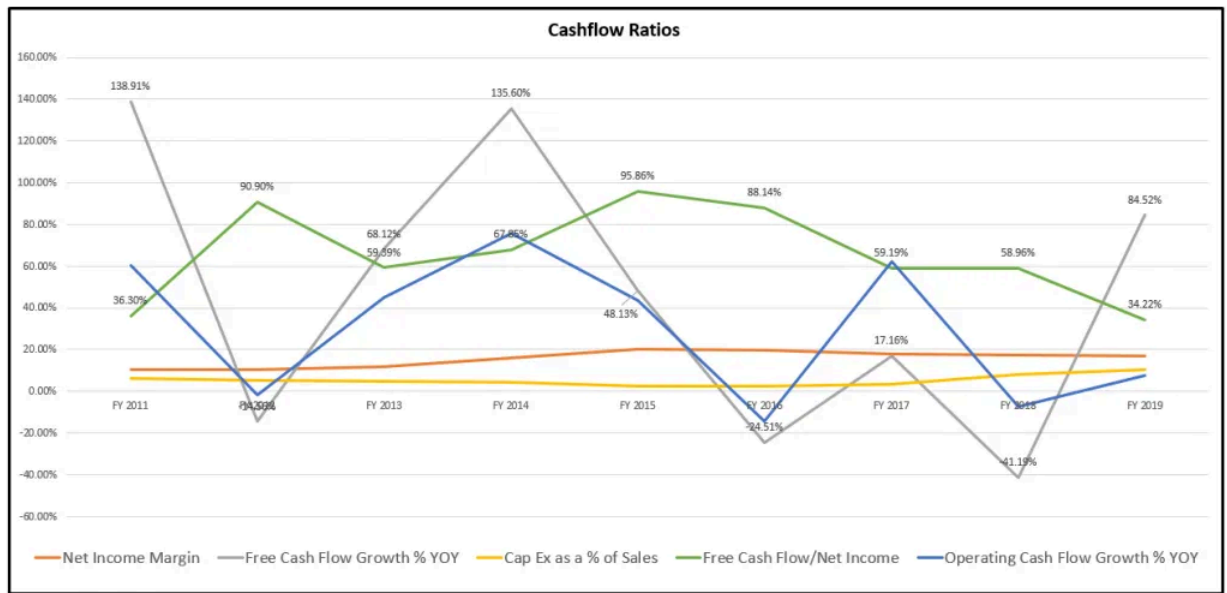
- Return on equity – Company has posted healthy figures in terms of return on equity which shows diligent utilization of shareholders’ capital. Having an average 24.4% the return on equity of the company can give good returns in the future.



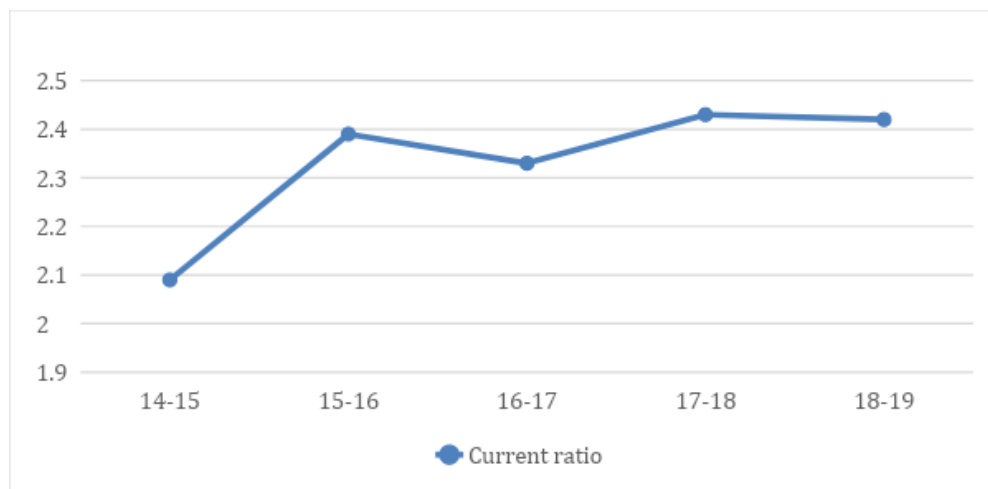
- Debt-Equity – Company has negligible debt which protects it from credit default and shows that the company is mainly focused on equity for capital. This also allows the shareholders to reap full benefit of the company's growth.
- Net Profit Margin – Company has shown consistent net profit margin of 17.98% which suggests that the company shall remain to be profitable in the near future. Despite down trend in net profit margin the profit margin has succeeded to stay above 15% which is the industry standard and it is expected to stay above that level because their business contracts are long term and the majority of the revenue comes from financial services.



- Cash Flow ratios – The free cash flow as a percentage of net income has shown a steady decline due to the increase in Cap-Ex and Working capital. The free and operating cash flow growth has been fluctuating but this is the nature of the business.



- Liquidity – company has good liquidity as suggested by their improved current ratio and quick ratio as a result of increase in current assets which suggests good liquidity for the company. The financial leverage and debt to equity have also been reducing over the years, which indicates good levels of solvency.
- Current Ratio- HCL's current ratio improved from 2.4 times in FY18 to 2.6 times in FY19, which therefor increased their ability to pay short- and long-term obligations.

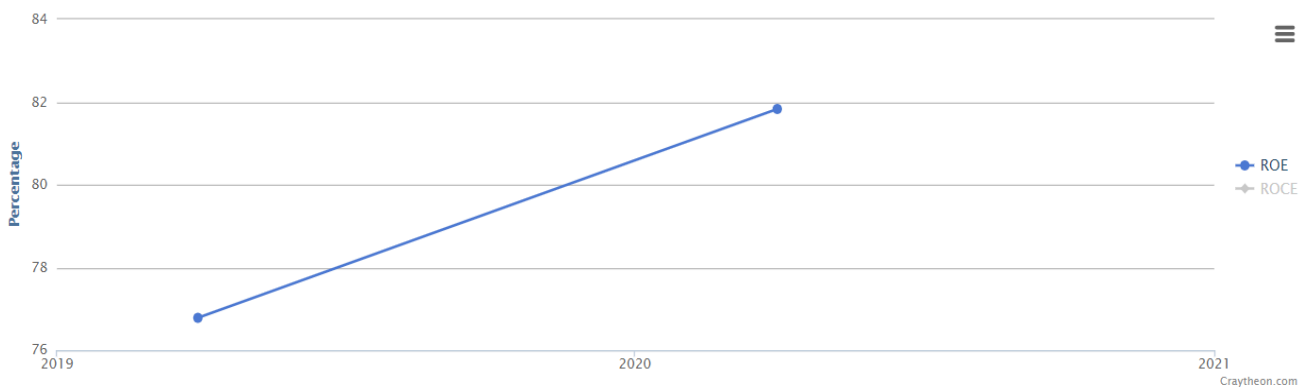


3. Hindustan Unilever (HUL)- FMCG Sector

- HUL is a market leader FMCG products segment with products in more than 20 different categories. They started manufacturing soaps, and then moved on to other categories such as food, tea, detergents, shampoo, personal care, etc.

- HULs revenue grew by 10.5% year-on-year in FY19. Compared to last year, its operating profit margin increased to 21.5% from 19.6%, Profit after Tax increased by 16.11%. Moreover, the EVA has been consistently increasing since the last decade. The company growth was supported by cost-control measure and its operational efficiency, which resulted in a reduction in days of inventory from 55 days to 50 days.
- Current Ratio- The company has a current ratio of 1.01, which implies that HUL is able to take care of their long- and short-term obligations.
- Debt-to-Equity Ratio- The company has a debt-to-equity ratio of 0.01, which is almost negligible, therefore making HUL nearly debt free.
- Return on Equity- HUL has return on equity of 77.18, which is a good sign for the investors, shareholders, and managers. This would imply that the returns provided by the company are healthy and growing at a good rate.
- Dividend Payout- When it comes to dividend payout, the company has been maintaining a healthy rate of 80.45%.

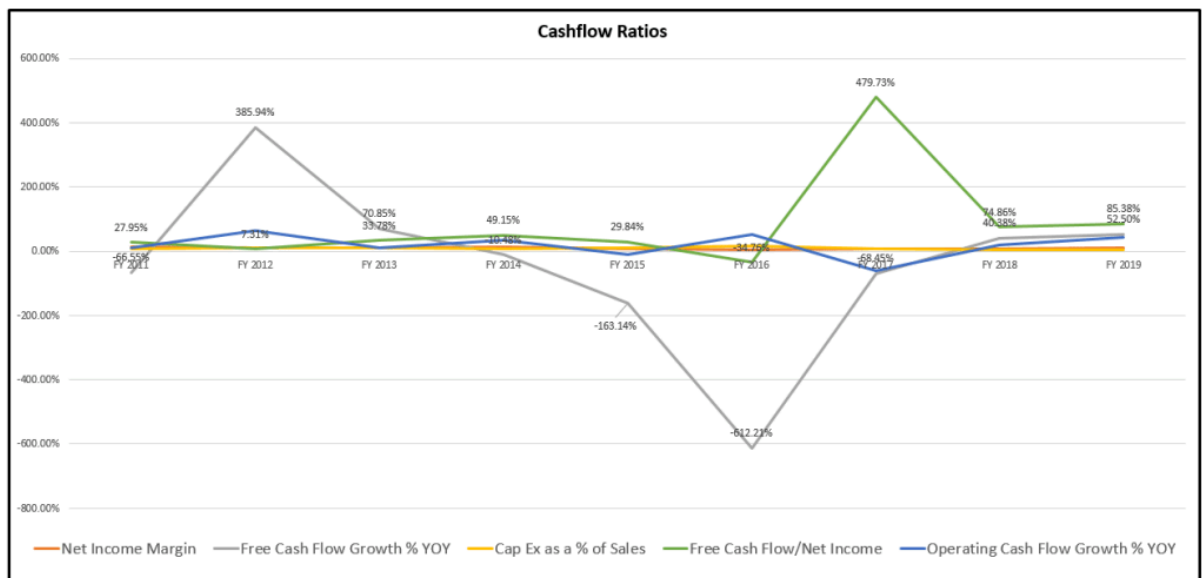
Return on Equity - Hindustan Unilever Ltd.



4. IPCA Laboratories- Pharmaceutical Sector

- Ipca Laboratories Limited manufactures and markets pharmaceutical formulations and Active Pharmaceutical Ingredients (APIs) for different types of therapeutic segments in India.
- The company exports its products to approximately 100 countries around the world.
- Return on Equity- From an investor's perspective, ROE is a key ratio. The Return on Equity (after subtracting preference shares) tells the shareholders how efficiently their money is being used. Ideally, average ROE in long-term should be above 15%. Return on Equity of Ipca Laboratories Ltd on an average is approximately 16%.
- Overall, the firm has strong fundamentals and the business model is properly diversified. The shares, however, may see few price appreciations in the short term due to the uncertainty in pharma stocks and the long term outlook is also optimistic for Ipca laboratories.

- Current Ratio- the company's current ratio in FY19 was 2.17, which is a good number because a CA greater than 1 implies that the company is financially secure when it comes to taking care of current and future obligations.
- Debt Ratio- Ipca's debt ratio in FY19 was 0.11. Therefore the company is basically debt free. Debt-to-Equity ratio varies across various industries but many companies have a ratio larger than 1, that means that they have more debt than the equity. If the ratio is very high, raising more cash through borrowings could be a task.
- Cash Flows- The net income margin has improved slightly and there is a decline in capital expenditure as a percentage of sales. The free cash flow as a percentage of net income is also positive. The same can be said for the operating cash flow growth. Overall, this indicates that the company is in a state of good cash flow position.
- CAGR- The company has delivered a good profit growth rate of 20.57% CAGR over the last 5 years, which is a healthy growth rate for a company and for the shareholders and investors.



- Net Profit Margin- the company increased its net profit margin from 7.24 in FY18 to 12.52 in FY19

4.Asset Allocation Process:

Step 1: Stock selection and data collection.

The fund managers select 4 stocks for the portfolio in diverse sectors based on their fundamental analysis. The stocks Bajaj Finance Ltd, Hindustan Unilever Ltd, HCL Technologies Ltd and IPCA Laboratories Ltd are selected due to their high growth prospects determined on the basis of their fundamental analysis.

The portfolio construction shall be done on Microsoft Excel. Thus, open MS Excel and list down monthly closing prices of all the stocks for the past 5 years. This would include data from March 2014 to March 2019. This is done as we need a base to estimate the returns and risk the stock will give us for the next coming year, basis which we shall decide how the portfolio shall be churned. After this, the closing prices are adjusted for corporate actions.

| KEDAR BADGUJAR - 74021018065 | | | | | | | | | | | | | | | | |
|------------------------------|---------|---------------|---------|----------|-------------------|--------|---|---------|----------|-------------------|--------|------------|---------------|--------|----------|---|
| AL22 | | | | | | | | | | | | | | | | |
| 1 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
| 2 | Month | Close Price | | | | | Adjusted prices after corporate actions | | | | | Rf 10Y GBY | Monthly HPR | | | |
| 3 | Mar-14 | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories | Sensex | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories | Sensex | | Bajaj Finance | HUL | HCL TECH | |
| 4 | 1790.05 | 603.65 | 1390.5 | 844.8 | 22386.3 | 179.01 | 603.65 | 695.25 | 844.80 | 22386.27 | 7.84% | | 4.71% | -6.09% | 0.95% | |
| 5 | 1874.3 | 566.9 | 1403.65 | 838.7 | 22417.8 | 187.43 | 566.90 | 701.83 | 838.70 | 22417.80 | 7.85% | | 7.82% | 6.01% | 0.98% | |
| 6 | 2020.85 | 600.95 | 1417.35 | 787.5 | 24217.3 | 202.09 | 600.95 | 708.68 | 787.50 | 24217.34 | 7.81% | | -0.98% | 3.09% | 5.59% | |
| 7 | 2001.05 | 619.5 | 1496.55 | 875.4 | 25413.8 | 200.11 | 619.50 | 748.28 | 875.40 | 25413.78 | 7.82% | | 10.22% | 10.65% | 3.90% | |
| 8 | 2205.5 | 685.5 | 1554.9 | 712.6 | 25895 | 220.55 | 685.50 | 777.45 | 712.60 | 25894.97 | 7.79% | | 11.94% | 8.13% | 4.85% | |
| 9 | 2468.8 | 741.25 | 1630.35 | 746.5 | 26638.1 | 246.88 | 741.25 | 815.18 | 746.50 | 26638.11 | 7.73% | | 9.81% | 0.62% | 5.21% | |
| 10 | 2711 | 745.85 | 1715.35 | 792.05 | 26630.5 | 271.10 | 745.85 | 857.68 | 792.05 | 26630.51 | 7.60% | | 3.23% | -1.01% | -6.42% | |
| 11 | 2798.5 | 738.35 | 1605.25 | 734.9 | 27865.8 | 279.85 | 738.35 | 802.63 | 734.90 | 27865.83 | 7.75% | | 10.20% | 6.53% | 3.54% | |
| 12 | 3083.85 | 786.6 | 1662.15 | 684.4 | 28694 | 308.39 | 786.60 | 831.08 | 684.40 | 28693.99 | 7.79% | | 12.89% | -3.45% | -3.98% | |
| 13 | 3481.45 | 759.5 | 1595.95 | 731.5 | 27499.4 | 348.15 | 759.50 | 797.98 | 731.50 | 27499.42 | 7.67% | | 16.16% | 22.82% | 12.42% | |
| 14 | 4044.05 | 932.8 | 1794.1 | 638.35 | 29183 | 404.41 | 932.80 | 897.05 | 638.35 | 29182.95 | 7.72% | | 7.88% | -2.47% | 12.62% | |
| 15 | 4362.8 | 909.8 | 2020.5 | 656.8 | 29361.5 | 436.28 | 909.80 | 1010.25 | 656.80 | 29361.50 | 7.59% | | -6.11% | -4.06% | -3.03% | |
| 16 | 4096.25 | 872.9 | 979.65 | 638.55 | 27957.5 | 409.63 | 872.90 | 979.65 | 638.55 | 27957.49 | 7.44% | | -2.12% | -2.68% | -10.22% | |
| 17 | 4009.45 | 849.5 | 879.5 | 642.55 | 27011.3 | 400.95 | 849.50 | 879.50 | 642.55 | 27011.31 | 7.28% | | 5.22% | 1.21% | 15.04% | |
| 18 | 4218.75 | 859.8 | 1011.8 | 656.65 | 27828.4 | 421.88 | 859.80 | 1011.80 | 656.65 | 27828.44 | 7.50% | | 29.34% | 6.59% | -8.97% | |
| 19 | 5456.65 | 916.45 | 921.05 | 709.7 | 27780.8 | 545.67 | 916.45 | 921.05 | 709.70 | 27780.83 | 7.35% | | | | | |

Step 2: Calculate Average Return, Standard Deviation and Beta

Holding Period Return for each stock was calculated, annualized, and then adjusted to show the returns earned over and above the risk-free rate prevailing in the market. 10-year sovereign bond was assumed as a risk-free debt instrument, over which the individual stocks were expected to perform.

Monthly HPR = (Closing price of current month - Closing price of previous month) / Closing price of previous month.

Annualized HPR = Monthly HPR * 12

Excess Returns = Annualized HPR – Risk Free Rate(Rf)

| KEDAR BADGUJAR - 74021018065 | | | | | | | | | | | | | | | | |
|------------------------------|----------|------------|---------------|--------|----------|-----------|--------|----------------|---------|----------|-------------------|---------|----------------|---------|----------|-------------------|
| W4 | | | | | | | | | | | | | | | | |
| =R4-SL4 | | | | | | | | | | | | | | | | |
| 1 | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| 2 | Sensex | Rf 10Y GBY | Monthly HPR | | | | | Annualized HPR | | | | | Excess Returns | | | |
| 3 | 22386.27 | 7.84% | Bajaj Finance | HUL | HCL TECH | A Laborat | Sensex | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories | Sensex | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories |
| 4 | 22417.80 | 7.85% | 4.71% | -6.09% | 0.95% | -0.72% | 0.14% | 56.48% | -73.06% | 11.35% | -8.66% | 1.69% | 48.63% | -80.91% | 3.50% | -16.52% |
| 5 | 24217.34 | 7.81% | 7.82% | 6.01% | 0.98% | -6.10% | 8.03% | 93.83% | 72.08% | 11.71% | -73.26% | 96.33% | 86.02% | 64.27% | 3.90% | -81.06% |
| 6 | 25413.78 | 7.82% | -0.98% | 3.09% | 5.59% | 11.16% | 4.94% | -11.76% | 37.04% | 67.05% | 133.94% | 59.29% | -19.57% | 29.23% | 59.24% | 126.13% |
| 7 | 25894.97 | 7.79% | 10.22% | 10.65% | 3.90% | -18.60% | 1.89% | 122.61% | 127.85% | 46.79% | -223.17% | 22.72% | 114.82% | 120.06% | 39.00% | -230.95% |
| 8 | 26638.11 | 7.73% | 11.94% | 8.13% | 4.85% | 4.76% | 2.87% | 143.26% | 97.59% | 58.23% | 57.09% | 34.44% | 135.53% | 89.86% | 50.50% | 49.35% |
| 9 | 26630.51 | 7.60% | 9.81% | 0.62% | 5.21% | 6.10% | -0.03% | 117.73% | 7.45% | 62.56% | 73.22% | -0.34% | 110.13% | -0.15% | 54.97% | 65.62% |
| 10 | 27865.83 | 7.75% | 3.23% | -1.01% | -6.42% | -7.22% | 4.64% | 38.73% | -12.07% | -77.02% | -86.59% | 55.66% | 30.99% | -19.81% | -84.77% | -94.33% |
| 11 | 28693.99 | 7.79% | 10.20% | 6.53% | 3.54% | -6.87% | 2.97% | 122.36% | 78.42% | 42.54% | -82.46% | 35.66% | 114.57% | 70.63% | 34.74% | -90.25% |
| 12 | 27499.42 | 7.67% | 12.89% | -3.45% | -3.98% | 6.88% | -4.16% | 154.72% | -41.34% | -47.79% | 82.58% | -49.96% | 147.05% | -49.01% | -55.46% | 74.92% |
| 13 | 29182.95 | 7.72% | 16.16% | 22.82% | 12.42% | -12.73% | 6.12% | 193.92% | 273.81% | 148.99% | -152.81% | 73.46% | 186.20% | 266.09% | 141.27% | -160.53% |
| 14 | 29361.50 | 7.59% | 7.88% | -2.47% | 12.62% | 2.89% | 0.61% | 94.58% | -29.59% | 151.43% | 34.68% | 7.34% | 87.00% | -37.17% | 143.84% | 27.10% |
| 15 | 27957.49 | 7.44% | -6.11% | -4.06% | -3.03% | -2.78% | -4.78% | -73.32% | -48.67% | -36.35% | -33.34% | -57.38% | -80.75% | -56.11% | -43.78% | -40.78% |
| 16 | 27011.31 | 7.28% | -2.12% | -2.68% | -10.22% | 0.63% | -3.38% | -25.43% | -32.17% | -122.68% | 7.52% | -40.61% | -32.71% | -39.45% | -129.96% | 0.24% |
| 17 | 27828.44 | 7.50% | 5.22% | 1.21% | 15.04% | 2.19% | 3.03% | 62.64% | 14.55% | 180.51% | 26.33% | 36.30% | 55.14% | 7.05% | 173.01% | 18.83% |
| 18 | 27780.83 | 7.35% | 29.34% | 6.59% | -8.97% | 8.08% | -0.17% | 352.11% | 79.06% | -107.63% | 96.95% | -2.05% | 344.76% | 71.71% | -114.98% | 89.59% |
| 19 | 28114.56 | 7.14% | 0.73% | 0.50% | 8.20% | -4.67% | 1.20% | 8.81% | 6.02% | 98.43% | -56.05% | 14.42% | 1.67% | -1.12% | 91.29% | -63.19% |
| 20 | 26283.09 | 6.86% | -8.60% | -6.47% | -2.51% | 17.09% | -6.51% | -103.19% | -77.59% | -30.10% | 205.04% | -78.17% | -110.05% | -84.45% | -36.97% | 198.18% |

After calculating the excess return of each stock and the benchmark index, average return and average standard deviation (as a measure of risk) were calculated using the following formulas:

Average Return = AVERAGE (Range of Excess Returns)

Average Standard Deviation = STDEV.S (Range of Excess Returns)

Beta = Slope (known Ys, Known Xs)

| Average Return and Standard Deviation | | | |
|---------------------------------------|------------------|-----------------|------|
| Companies | Average σ | Average Returns | Beta |
| Bajaj Finance | 112.47% | 55.60% | 1.16 |
| HUL | 67.11% | 15.45% | 0.78 |
| HCL Tech | 70.45% | 3.73% | 0.48 |
| IPCA Laboratories | 114.89% | 1.14% | 0.34 |
| SENSEX | 47.19% | 4.60% | - |

Step 3: Calculating Bordered Covariance Matrix

Now make a correlation matrix of all the stocks, where each stock appears horizontally as well as vertically, thus creating several pairs among them. Then we calculate the correlation between each such pair by using the CORREL function of Excel, for which the range of data shall be the range of closing monthly prices of the concerned 2 stocks. Note that the Correlation between pairs where both stocks are the same shall be 1, as the stock will always see a 100% correlation to itself. Now drag the formula across all cells of this matrix.

Now compute the covariance matrix for all the stocks by multiplying the correlation of 2 stocks you want to find with their respective standard deviations. This is done as the formula for Covariance is Correlation into the Standard Deviation of the 2 concerned stocks. This shall give us how much would one stock vary due to variation in other stock. Note that for same stock pairs, the Correlation is 1, and thus Covariance would be equal to Variance.

Next, we compute Bordered Covariance matrix which will include weights for all the portfolio stocks so that we can calculate portfolio's risk and return. Sum of all the weights will be restricted to 1 and calculate the weighted co-variance by multiplying the Co-variance of the two stocks you want with the weights of respective stocks. The Boarded Covariance Matrix accounts for the overall impact each stock pairing has on the overall portfolio covariance, based in their weights.

| | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ | AK | AL | AM | AN | AO |
|----|---------|----------|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 9 | -0.15% | 54.97% | 65.62% | -7.94% | | | | | | | | | | | | | | |
| 10 | -19.81% | -84.77% | -94.33% | 47.92% | | | | | | | | | | | | | | |
| 11 | 70.63% | 34.74% | -90.25% | 27.87% | | | | | | | | | | | | | | |
| 12 | -49.01% | -55.46% | 74.92% | -57.63% | | | | | | | | | | | | | | |
| 13 | 266.09% | 141.27% | -160.53% | 65.74% | | | | | | | | | | | | | | |
| 14 | -37.17% | 143.84% | 27.10% | -0.24% | | | | | | | | | | | | | | |
| 15 | -56.11% | -43.78% | -40.78% | -64.82% | | | | | | | | | | | | | | |
| 16 | -39.45% | -129.96% | 0.24% | -47.89% | | | | | | | | | | | | | | |
| 17 | 7.05% | 173.01% | 18.83% | 28.80% | | | | | | | | | | | | | | |
| 18 | 71.71% | -114.98% | 89.59% | -9.41% | | | | | | | | | | | | | | |
| 19 | -1.12% | 91.29% | -63.19% | 7.27% | | | | | | | | | | | | | | |
| 20 | -84.45% | -36.97% | 198.18% | -85.04% | | | | | | | | | | | | | | |
| 21 | -73.92% | 6.25% | -83.59% | -12.64% | | | | | | | | | | | | | | |
| 22 | -23.51% | -144.19% | 58.69% | 16.42% | | | | | | | | | | | | | | |
| 23 | 4.85% | -3.35% | 4.22% | -29.54% | | | | | | | | | | | | | | |
| 24 | 71.63% | -29.37% | -76.09% | -8.08% | | | | | | | | | | | | | | |
| 25 | -70.23% | 7.82% | -127.10% | -64.27% | | | | | | | | | | | | | | |
| 26 | 11.83% | -81.39% | -193.17% | -97.28% | | | | | | | | | | | | | | |
| 27 | 50.25% | -4.58% | 23.84% | 114.90% | | | | | | | | | | | | | | |
| 28 | -11.05% | -101.00% | -180.47% | 5.42% | | | | | | | | | | | | | | |
| 29 | -29.78% | -23.45% | -164.33% | 43.15% | | | | | | | | | | | | | | |
| 30 | 62.21% | -21.71% | 150.55% | 8.98% | | | | | | | | | | | | | | |
| 31 | 23.98% | 29.46% | 62.24% | 40.16% | | | | | | | | | | | | | | |
| 32 | -13.04% | 35.85% | 53.61% | 10.40% | | | | | | | | | | | | | | |

Step 4: Calculating the Portfolio Return and Portfolio Standard Deviation

Now portfolio variance, portfolio standard deviation and portfolio returns are to be calculated. To calculate all these first take out the boarded co-variance of every stock.

- Portfolio Variance will be the sum of boarded co-variance of all the stocks.
- Portfolio Standard Deviation will be the square root of Portfolio Variance.
- For Portfolio Returns, multiply each stock's weight with its average return and take its summation.

| | AB | AC | AD | AE | AF | AG | AH | AI | AJ | AK | AL | AM |
|----|----|----|---|--------|---------------|--------|----------|-------------------|----|----|----|----|
| 21 | | | HUL | 37.08% | 45.04% | 9.29% | -9.93% | | | | | |
| 22 | | | HCL Tech | -1.32% | 9.29% | 49.63% | 2.49% | | | | | |
| 23 | | | IPCA Laboratories | 17.25% | -9.93% | 2.49% | 131.99% | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | | | Covariance-Variance Matrix (Bordered Covariance) | | | | | | | | | |
| 26 | | | Weights | | 60% | 30% | 5% | 5% | | | | |
| 27 | | | Stocks | | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories | | | | |
| 28 | | | 60% Bajaj Finance | | 22.77% | 3.34% | -0.02% | 0.26% | | | | |
| 29 | | | 30% HUL | | 6.67% | 4.05% | 0.14% | -0.15% | | | | |
| 30 | | | 5% HCL Tech | | -0.04% | 0.14% | 0.12% | 0.01% | | | | |
| 31 | | | 5% IPCA Laboratories | | 0.52% | -0.15% | 0.01% | 0.33% | | | | |
| 32 | | | 100% | | 9.41% | 0.97% | 0.00% | 0.01% | | | | |
| 33 | | | | | | | | | | | | |
| 34 | | | Portfolio Variance | | 10.39% | | | | | | | |
| 35 | | | Portfolio SD | | 32.23% | | | | | | | |
| 36 | | | Portfolio Return | | 38.24% | | | | | | | |
| 37 | | | Sharpe Ratio | | 118.65% | | | | | | | |
| 38 | | | Maximizing Return | | | | | | | | | |

Step 5: Creating an efficient frontier for the portfolio.

The next step involves the use of an in-built Excel simulator called Solver. Solver helps us maximize/minimize or set value of specific cells, by using constraints that can be man-made, or system specified.

In solver, we enter the objective to maximize the portfolio return and the weights in the bordered covariance matrix are selected as the changing variable. We use a varying set of constraints for maximum and minimum weight. This is done so that any stock does not get a zero or less that stipulated weight in the portfolio or any stock does not get more than stipulated weight in the portfolio.

Solver Parameters

Set Objective:

To: ☒ Max ☐ Min ☐ Value Of:

By Changing Variable Cells:

Subject to the Constraints:

- \$AE\$29:\$AE\$32 <= 51%
- \$AE\$29:\$AE\$32 >= 5%
- \$AE\$33 = 100%

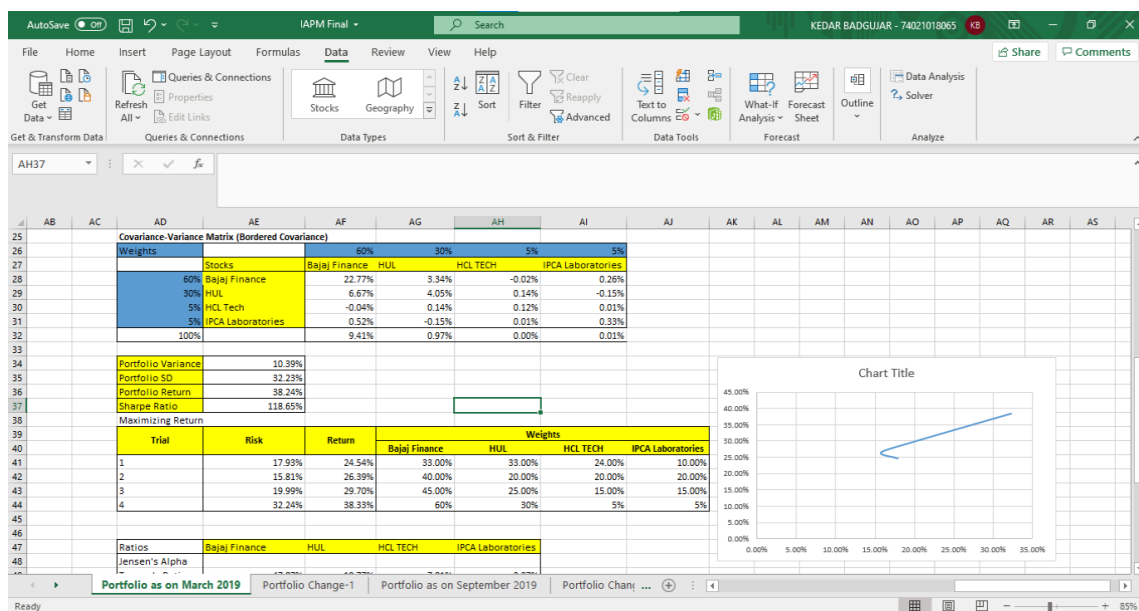
☒ Make Unconstrained Variables Non-Negative

Select a Solving Method:

Solving Method
Select the GRG Nonlinear engine for Solver Problems that are smooth nonlinear. Select the LP Simplex engine for linear Solver Problems, and select the Evolutionary engine for Solver problems that are non-smooth.

After setting the required objective, changing variable and constraints, we click solve and solver finds an optimum combination of risk-return and weights for the given set of constraints.

To develop the efficient frontier for the portfolio, we run solver multiple times to obtain different combinations of risk-return and weights to maximize the returns of our portfolio. We record and compile these trials and insert them to show the scatter-line curve for the efficient frontier.



The fund managers then choose the combination offering the maximum return to invest in the selected portfolio of stocks.

Step 6: Portfolio Revisal 1

After holding the portfolio from March 2019 to September 2019, the fund managers have decided to close the fund's position in an underperforming stock.

Sharpe ratio and Treynor's ratio are calculated for each stock. The stock with the least ratio is removed from the portfolio.

| Ratios | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories |
|-----------------|---------------|--------|----------|-------------------|
| Treynor's Ratio | 47.87% | 19.77% | 7.81% | 3.37% |
| Sharpe Ratio | 49.43% | 23.03% | 5.30% | 0.99% |

IPCA Laboratories Ltd. has given the least returns and thus have the least ratio. This shows the underperformance of the stock and thus IPCA Laboratories Ltd is removed from the portfolio in September 2019 and Atul Ltd is included in its place due to its high growth prospects.

We now repeat the same procedure for the new portfolio containing the stocks Bajaj Finance Ltd, Hindustan Unilever Ltd, HCL Technologies Ltd and Atul Ltd. Average return and standard deviations are calculated, bordered covariance matrix is prepared, efficient frontier is created using Excel's solver and finally the portfolio's returns are compared to the benchmark.

| Average Return and Standard Deviation | | | | | |
|---------------------------------------|---------------|------------|-------------|-------------|--------|
| Companies | Bajaj Finance | HUL | HCL Tech | Atul | Sensex |
| Average σ | 117.61% | 65.28% | 72.66% | 86.93% | 46.51% |
| Average Returns | 53.03% | 13.63% | -0.96% | 16.49% | 0.62% |
| Beta | 1.357974141 | 0.77447885 | 0.466587706 | 0.584995654 | - |

| | |
|--------------------|--------|
| Portfolio Variance | 14.32% |
| Portfolio SD | 37.84% |
| Portfolio Return | 34.96% |
| Sharpe Ratio | 92.38% |

| Maximizing Return | | | | | | | |
|-------------------|--------|--------|---------------|--------|----------|--------|--|
| Trial | Risk | Return | Weights | | | | |
| | | | Bajaj Finance | HUL | HCL TECH | Atul | |
| 1 | 21.28% | 25.73% | 40.00% | 5.00% | 30.00% | 25.00% | |
| 2 | 18.84% | 25.99% | 32.00% | 28.00% | 8.00% | 32.00% | |
| 3 | 26.04% | 29.80% | 40.00% | 15.00% | 5.00% | 40.00% | |
| 4 | 31.49% | 32.32% | 50.00% | 12.00% | 12.00% | 26.00% | |
| 5 | 37.84% | 34.96% | 55.00% | 8.00% | 8.00% | 29.00% | |

The combination with the maximum return is chosen for the fund to invest in the selected portfolio of stocks.

Step 7:

After holding the portfolio from September 2019 to March 2020, the fund managers have decided to close the fund's position in an underperforming stock.

Sharpe ratio and Treynor's ratio are calculated for each stock. The stock with the least ratio is removed from the portfolio.

| Ratios | Bajaj Finance | HUL | HCL TECH | Atul |
|-----------------|---------------|--------|----------|--------|
| Treynor's Ratio | 39.05% | 17.60% | -2.06% | 28.19% |
| Sharpe Ratio | 45.09% | 20.88% | -1.32% | 18.97% |

HCL Technologies Ltd. has given negative returns and thus show negative ratios. This shows the underperformance of the stock and thus HCL Technologies Ltd is removed from the portfolio in March 2020 and Tata Consultancy Services Ltd is included in its place due to its high growth prospects.

We now repeat the same procedure for the new portfolio containing the stocks Bajaj Finance Ltd, Hindustan Unilever Ltd, Tata Consultancy Services Ltd and Atul Ltd. Average return and standard deviations are calculated, bordered covariance matrix is prepared, efficient frontier is created using Excel's solver and finally the portfolio's returns are compared to the benchmark.

| Average Return and Standard Deviation | | | | | |
|---------------------------------------|---------------|----------|-------------|----------|--------|
| Companies | Bajaj Finance | HUL | TCS | Atul | Sensex |
| Average σ | 142.60% | 59.22% | 80.25% | 95.24% | 58.27% |
| Average Returns | 36.54% | 13.65% | 2.45% | 21.85% | -4.74% |
| Beta | 1.719279449 | 0.282372 | 0.744839357 | 0.799128 | - |

| | |
|--------------------|--------|
| Portfolio Variance | 16.99% |
| Portfolio SD | 41.21% |
| Portfolio Return | 25.70% |
| Sharpe Ratio | 62.37% |

| Maximizing Return | | | | | | |
|-------------------|--------|--------|---------------|--------|--------|--------|
| Trial | Risk | Return | Weights | | | |
| | | | Bajaj Finance | HUL | TCS | Atul |
| 1 | 18.40% | 12.78% | 11.00% | 24.00% | 25.00% | 40.00% |
| 2 | 15.63% | 14.62% | 25.00% | 25.00% | 25.00% | 25.00% |
| 3 | 17.75% | 16.36% | 25.00% | 23.00% | 19.00% | 33.00% |
| 4 | 25.37% | 20.30% | 37.00% | 20.00% | 12.00% | 31.00% |
| 5 | 29.61% | 21.98% | 41.00% | 16.00% | 11.00% | 32.00% |
| 6 | 41.21% | 25.70% | 50.00% | 11.00% | 5.00% | 34.00% |

Again, the combination offering the maximum return is chosen for the fund to invest in the selected portfolio of stocks.

5.PORTFOLIO EVALUATION

As we have discussed in the asset allocation process about the number of stocks taken and the reasons for taking them. The portfolio has been churned twice and the efficient frontiers that have been constructed are 3. Now we will evaluate each portfolio using different tools and ratios namely they are Sharpe Ratio, Treynor's measure and Jensen's Alpha. The benchmark taken for comparison is the S&P BSE Sensex Index for all the three portfolios.

The Efficiency Frontier

While the benefits of diversification are clear, investors must determine the level of diversification that best suits them. This can be determined through what is called the Efficient Frontier, a graphical representation of all possible combinations of risky securities for an optimal level of return given a particular level of risk. At every level of return, investors can create a portfolio that offers the lowest possible risk. For every level of risk, investors can create a portfolio that offers the highest return. At every point on the Efficient Frontier, investors can construct at least one portfolio from all available investments that features the expected risk and return corresponding to that point. A portfolio found on the upper portion of the curve is efficient, as it gives the maximum expected return for the given level of risk. The Efficient Frontier offers a clear demonstration of the power behind diversification.

Sharpe Ratio

The ratio describes how much excess return you receive for the extra volatility you endure for holding a riskier asset.

Treynor Ratio

The Treynor ratio is similar to sharpe ratio , except that it uses beta as volatility measurements .

Returns is defined as the incremental average return of an investment over the risk free rate .

Risk is defined as the beta of investment returns relative to a benchmark.

Higher the Treynor ratio that makes the portfolio more suitable for investment .

The excesses return is divided by the portfolio beta that gives excess portfolio return per unit of systematic risk .

Jensen's alpha

Jensen's alpha is the average return on the portfolio over and above that predicted by the CAPM, given the portfolio's beta and the average market return.

Alpha is the portion of the excess return of a portfolio that is not explained by systematic risk. It is the difference between the actual return and the return predicted by CAPM

A **Positive alpha** means that the portfolio has beaten the market , while **Negative alpha** indicates underperformance

It is also referred as alpha when a manager outperformed the market as that means the manager has delivered alpha to his clients

Overall Portfolio Performance:

| Measure | Portfolio as on Mar-19 | Portfolio as on Sept-19 | Portfolio as on Mar-20 | Months | Portfolio Return | Growth Base=100 |
|----------------------------|------------------------|-------------------------|------------------------|--------|------------------|-----------------|
| Average Returns | 38.24% | 34.96% | 25.70% | Apr-19 | 2.48% | 102 |
| Average Standard Deviation | 32.23% | 37.84% | 41.21% | May-19 | 7.35% | 110 |
| Average Risk Free Rate | 7.30% | 7.22% | 7.09% | Jun-19 | 3.47% | 114 |
| Portfolio Beta | 0.97 | 1.02 | 1.20 | Jul-19 | -8.00% | 105 |
| Average Market return | 4.60% | 0.62% | -4.74% | Aug-19 | 4.53% | 109 |
| Sharpe ratio | 118.65% | 92.38% | 62.37% | Sep-19 | 14.17% | 125 |
| Jensen Alpha | 33.57% | 34.45% | 32.81% | Oct-19 | 3.30% | 129 |
| Treynor's ratio | 39.33% | 34.42% | 21.43% | Nov-19 | -1.77% | 127 |
| | | | | Dec-19 | 1.87% | 129 |
| | | | | Jan-20 | 8.62% | 140 |
| | | | | Feb-20 | 2.23% | 143 |
| | | | | Mar-20 | -35.17% | 93 |
| | | | | Apr-20 | 9.81% | 102 |
| | | | | May-20 | -10.87% | 91 |
| | | | | Jun-20 | 22.93% | 112 |
| | | | | Jul-20 | 11.65% | 125 |
| | | | | Aug-20 | 7.91% | 135 |
| | | | | Sep-20 | 0.04% | 135 |

Overall, the portfolio has beaten the market in all three time periods which is shown by the positive Jensen's Alpha. However, the portfolio has generated a declining Sharpe ratio and Treynor's ratio owing to the declining average returns of the portfolio.

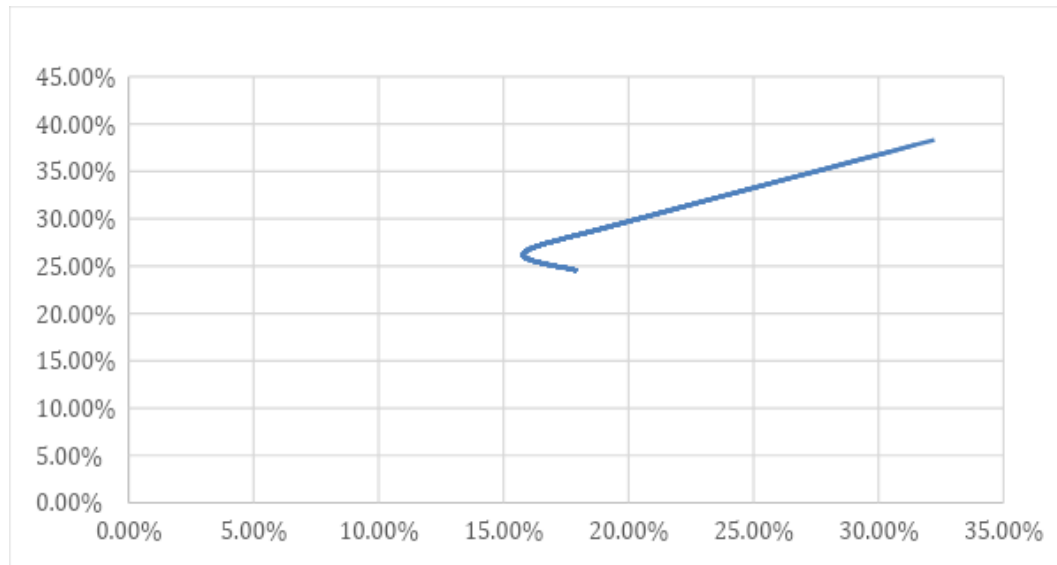
The actual returns generated by the portfolio are very promising. The portfolio has generated a 35% return as compared to the -2% return generated by the benchmark Sensex index.

PORTFOLIO 1

The first portfolio is constructed from March 2014 to March 2019. It consists of 4 stocks which are from different sectors as the portfolio is a diversified one. This portfolio consists of Bajaj Finance, Hindustan Unilever, HCL Technologies and Ipca Laboratories Ltd. The maximum return that the portfolio could generate on the efficient frontier is 38.24% while taking a maximum risk of 32.23%. The other details of the portfolio are as follows:

| | |
|--------------------|---------|
| Portfolio Variance | 10.39% |
| Portfolio SD | 32.23% |
| Portfolio Return | 38.24% |
| Sharpe Ratio | 118.65% |

The benchmark return of the S&P BSE Sensex return is just 4.60% but the portfolio has generated returns of 38.24%



In order to maximize returns for this portfolio with accordance to the efficiency frontier Bajaj finance has been allocated the maximum weightage in the portfolio at 60%, followed by Hindustan Unilever at 30% and, and then both HCL Tech and IPCA Laboratories being allocated 5% each.

| Weights | |
|---------|-------------------|
| | Stocks |
| 60% | Bajaj Finance |
| 30% | HUL |
| 5% | HCL Tech |
| 5% | IPCA Laboratories |

| Ratios | Bajaj Finance | HUL | HCL TECH | IPCA Laboratories |
|-----------------|---------------|--------|----------|-------------------|
| Treynor's Ratio | 47.87% | 19.77% | 7.81% | 3.37% |
| Sharpe Ratio | 49.43% | 23.03% | 5.30% | 0.99% |

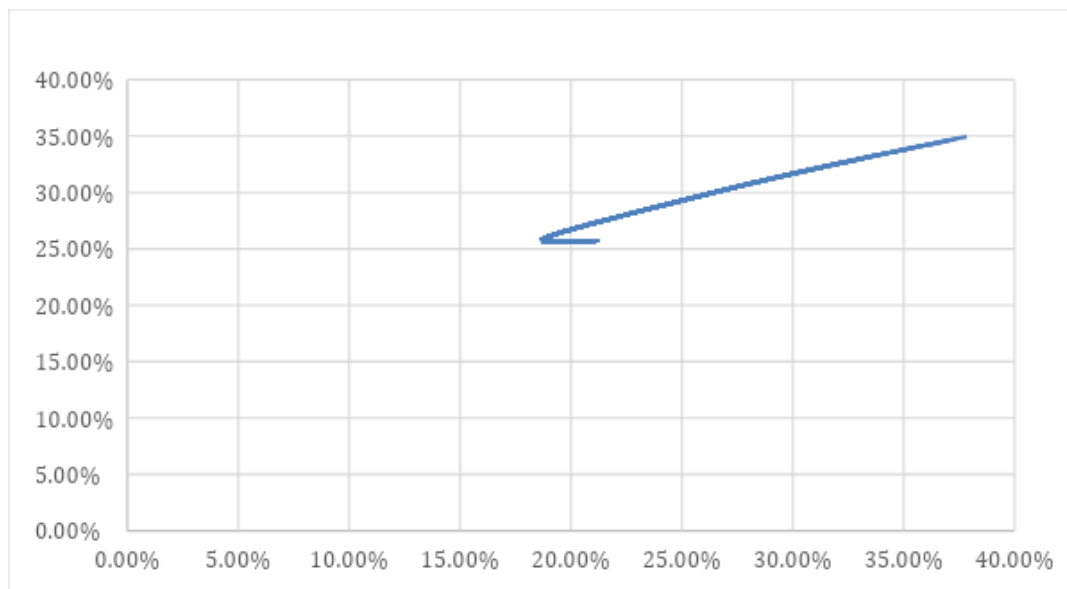
In the above portfolio the Sharpe ratio for IPCA laboratories is the least. Sharpe ratio is the excess return that is generated over and above the risk- free rate per unit of risk. IPCA laboratories has the least Sharpe ratio compared to the other equity stocks in the portfolio. It is not generating enough excess returns. Compared to the risk being borne for this stock the excess returns are only a meagre 0.99% which is not ideal for our target client base of HNIs as along with excess capacity to take on risk they would want greater profits, which is why we have replaced IPCA laboratories with another stock in our second portfolio.

PORTFOLIO 2

The second portfolio is constructed from September 2014 to September 2019. In this portfolio IPCA laboratories has been replaced with Atul Ltd which is in the speciality chemicals sector as this sector's high growth prospects are very attractive.

This portfolio gives us a return of 34.96% while taking on a risk of 37.84%. This portfolio outperforms the average market returns ten-folds as the average returns are only 0.62%

| | |
|--------------------|--------|
| Portfolio Variance | 14.32% |
| Portfolio SD | 37.84% |
| Portfolio Return | 34.96% |
| Sharpe Ratio | 92.38% |



In order to reach this desirable level of returns the weights assigned to each stock are as follows:

| Weights | Stocks |
|---------|---------------|
| 55% | Bajaj Finance |
| 8% | HUL |
| 8% | HCL Tech |
| 29% | Atul |

Bajaj Finance continues to be the stock which receives the highest weightage in our portfolio at 55%. However, HUL has fallen to only 8% weightage as compared to the 30% it was allocated last year and HCL tech has been bumped up by 3% when compared to the first portfolio getting a weightage of 8% and Atul Ltd the new company introduced into the

portfolio receives almost 30% weightage in order to get the ideal point in the efficiency frontier.

| Ratios | Bajaj Finance | HUL | HCL TECH | Atul |
|-----------------|---------------|--------|----------|--------|
| Treynor's Ratio | 39.05% | 17.60% | -2.06% | 28.19% |
| Sharpe Ratio | 45.09% | 20.88% | -1.32% | 18.97% |

On analysing the Sharpe ratios are fund managers have decided that it is in the best interests of our clients for the fund to get rid of HCL tech from the portfolio. This is a very obvious decision as the Sharpe ratio value of HCL Tech is negative, it is not providing any excess returns and it is not worth keeping in the portfolio when its returns are compared to its risk.

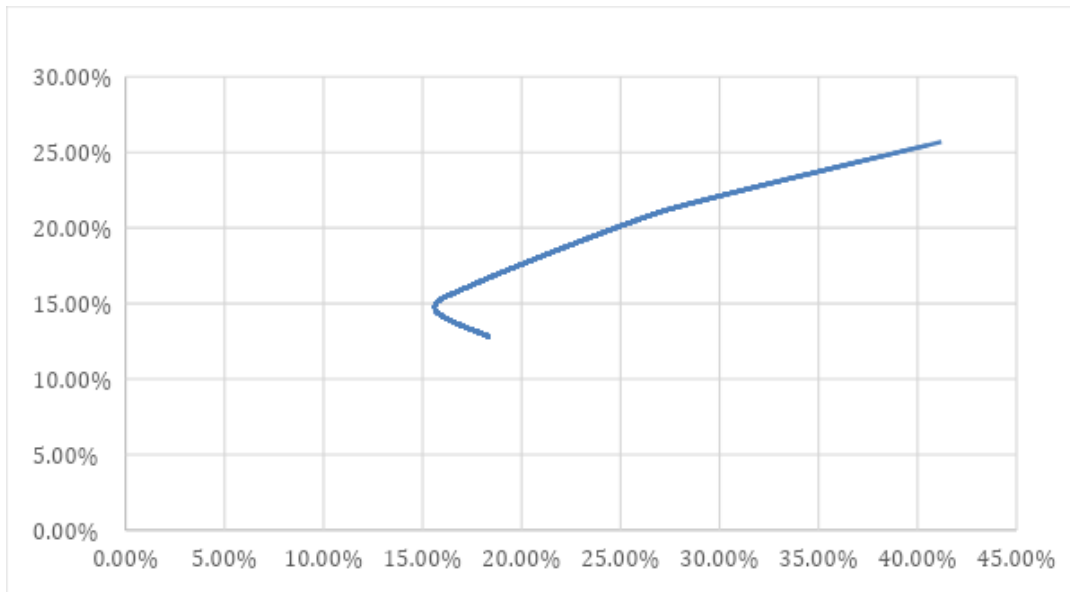
PORTFOLIO 3

The third portfolio is constructed from March 2015 to March 2020. In this portfolio the fund managers have decided that it is in the best interests of our clients to invest in another stock from the same sector, as the IT sector has high growth prospects which is what makes it attractive. The fund has let go of HCL Tech and has decided to invest in Tata Consultancy Services Ltd.

On analyzing the portfolio we can see that there is sufficient diversification in this portfolio. As the companies in this portfolio belong to four different sectors.

| | |
|--------------------|--------|
| Portfolio Variance | 16.99% |
| Portfolio SD | 41.21% |
| Portfolio Return | 25.70% |
| Sharpe Ratio | 62.37% |

The portfolio gives us a return of 25.70% while taking on a risk of 41.21% . When we compare this with the benchmark we can see how the fund has outdone the market tremendously as the markets returns are at -4.74%



In order to reach the ideal point on the efficiency frontier the weights were allocated to the stocks in the following way:

| Weights | |
|---------|---------------|
| | Stocks |
| 50% | Bajaj Finance |
| 11% | HUL |
| 5% | TCS |
| 34% | Atul |

With Bajaj finance being allocated the highest weightage, followed by Atul Ltd and HUL being allocated a greater percentage than it was in the second portfolio and the new stock TCS being allocated 5% of the total weightage.

| Ratios | Bajaj Finance | HUL | HCL TECH | Atul |
|-----------------|---------------|--------|----------|--------|
| Treynor's Ratio | 21.26% | 48.34% | 3.28% | 27.35% |
| Sharpe Ratio | 25.63% | 23.05% | 3.05% | 22.95% |

On analysing the Sharpe ratios, it looks very attractive to a HNI investor as they will be getting a good percentage of excess returns from this portfolio as compared to the average returns they would get from the markets.

6.COSTS

Load

A load is a sales charge or commission as a percentage of NAV, charged to an investor when buying or redeeming shares in a mutual fund. They are decided by the mutual fund company and charged by mutual fund intermediaries in mutual fund transactions.

Entry Load

It is the fee collected by the mutual fund companies from an investor during the purchase of a mutual fund or joining it. It is collected with the intention of compensating for distribution costs. It decreases the net amount invested in a fund. As per SEBI no entry load shall be charged for all the mutual fund schemes. It is forbidden for any Indian Mutual Fund to lay down an entry load.

Entry Load – not applicable

Exit Load:

It is the fee charged by the Asset Management Company (AMC) when an investor redeems its fund units or chooses to exit the fund before the specified time period. It reduces the amount withdrawn from the fund.

Exit Loads

Mutual funds companies gather a sum from investors after they join or leave a scheme. This fee charged is mostly remarked as a 'load'. Exit load may be a fee or an amount charged from an investor for exiting or leaving a scheme or the corporate as an investor. The aim behind the gathering of this commission at the time investors exit the scheme is to discourage them from doing so, i.e. to decrease the no. of withdrawals from the schemes of mutual funds by the investors. Asset Management Companies can charge an exit load of maximum of two and half percent of assets under management (AUM) for handling an equity scheme. we've planned to charge our investors with an exit load of 1.5%. this is often near the common charge of the all fund houses within the country.

7.BACKGROUND OF THE PORTFOLIO MANAGERS

1) Kushagra Kaushik

Position at the firm: Chief Portfolio Manager, Chairman of the AMC

Education: MBA (Finance) from IIM Lucknow, BBA (Finance)

Experience: Has been in the Core finance industry for more than 18 years now working for top investment banks and then moving to mutual funds management. Kushagra is known for tracking the market pulse with finesse.

Associated with the firm: Since 2010

2) Kavish Kanthimathinathan

Position at the firm: Director

Education: Masters in Financial Modelling, BSc in finance

Experience: An enthralling 17 years in the industry Kavish has been at the top and been a mutual fund manager since the beginning. He's nothing less than an industry expert

Associated with the firm: Since 2010

3) Kedar Badgujar

Position at the firm: Associate Director (Equity holdings Manager)

Education: MBA (Finance) National University Singapore (NUS), BBA (Finance)

Experience: A top researcher known for identifying companies with strong fundamentals, He is known for spending most of his years as top research analyst and has done significant work in the Auto sector. Associated with the firm: Since 2012

4) Kinshuk Agrawal

Position at the firm: Associate Manager

Education: Masters in Finance (JBIMS), B. Com Hons (Delhi University)

Experience: Has spent 4 years in the industry he is known for his aggressive investments which at most of the times have been proven successful. A part of our campus recruitment, he has been an asset to us.

Associated with the firm: Since 2014

5) Saubhagya Kukrety

Position at the firm: Assistant Manager

Education: MBA in Finance (London School of Economics), Chartered Financial Analyst, BBA (Finance) from NMIMS Mumbai

Experience: A fresher in the industry but has been quick in gaining success. Managed HNI portfolios for 3 years at Goldman Sachs and only recently joined us.

Associated with the firm: 2018

8. CONCLUSION:

The trend towards liberalization and globalization of the economy has promoted free flow of capital. In this context, financial investments cannot be conceived of without portfolio management. Thus, to achieve efficiency in investment and to minimize the risk, study of Portfolio management is vital. The objective of our fund is to provide a long-term capital appreciation and provide the best risk return combination for our investors. We were able to analyse the portfolio after thorough churning and ensure that both our funds are winners in the long run. Not all stocks are winners. It's a sad truth. Some stocks are big winners in a shorter period of time than you expect. While value investing intends to reduce the amount of daily or weekly oversight you exercise over your portfolio, you still need to pay attention to what's going in with your stocks. The fund was designed for High net worth individuals with the intentions of high returns. The fund performed throughout the year and beat the market Sharpe ratio on all three occasions.

Many stocks witnessed new lows in the last year, and many companies became bankrupt. In such a time it becomes all the more essential for a fund manager to analyse its portfolio thoroughly. We at Falcon believe that our fund is well diversified across sectors to withstand

any negative change in the economy. Our customers choose us because they believe in the abilities of our Portfolio managers and at Falcon, our aim has always been to maintain that trust.

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