MULTI-ACT
Built by investors for investors

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Sankhya India Portfolio

Letter to Investors

01 October 2020

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Letter to investors

In Sanskrit, Statistics is called '*Sankhya Shastra*', literally 'the science of numbers'. Born out of statistical testing of financial data, ***Sankhya India Portfolio*** is a quantitative portfolio that invests in selected equities for a fixed period. The vision of Sankhya India Portfolio is to melt the fog of mystery in equity investing, and to generate superior returns using systematic quantitative investing without adding any behavioural bias.

In Sankhya India Portfolio, the corpus will be invested in companies amongst the largest hundred at the time that are poised to perform best over next one year. With annual rebalancing, the Sankhya India Portfolio always remains invested in most probable winners selected purely based on their fundamentals.

01 October 2020

Dear Investor,

While studying to earn Master's degree, we learned about mathematical models such as Reimann integrals, Fourier series and others, each more exasperating than the one before. Our professor was Dr. Joshi, an accomplished researcher who had retired a few years ago, but the love of teaching and perhaps amusement of watching students fumble had brought him back to the university, teaching us advanced mathematical models.

Looking at us getting perplexed at the complicated models, he asked us one day, "Do you think Reimann went to his office one fine day, determining that he would come up with an integral today? Most – if not all - the theorems and corollaries you learn in a lecture were evolved over a duration of research, with some being planned and others being chance findings. Try and think from that researcher's perspective how his research led him to this finding." While his speech did not make any of the models easier to grasp, it sure made us appreciate the continued efforts and ever-evolving nature of research that ended up in such models.

After testing hundreds of quantitative investment strategies and running Sankhya India Portfolio with internal capital for three years, we remember this story with a certain fondness. The logic of SIP too evolved over a period, with us learning about the pitfalls of glorious back tests and realizing the difference between paper trading and actual trading.

In the first newsletter, let us tell you the story of Sankhya.

Your fund managers,

Aniruddha Meher
M.Phil. (Stats)

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M.Sc. (Stats)

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The story of Sankhya

When we started internal testing of Quantitative investment strategies – investing by numbers – we took inspiration from prominent books and research papers, and our own inhouse investors. Assembling the data and weeding out the errors is a whole chapter by itself. The data would be riddled with look-ahead bias and survivorship bias.

1. **Look ahead bias** is where one uses non-available data to predict future. For example, most Indian companies have their year-end on 31st March every year. It takes around 2-4 months for most investable companies to come up with the annual report. In back-testing, if we are to use the financial numbers from 1st April onwards, we would fall prey to the look ahead bias. This may paint the strategy's performance in an unrealistically glossy picture.
2. **Survivorship bias** indicates a more serious bias, where bankrupt or taken over companies would simply be deleted from the database. So, all companies in the database would be perfectly healthy, having survived all their history. But losing the data of companies that do not exist blinds the strategy to failing investments, thus making it susceptible to large losses in real life.

After we *climbed every mountain and forded every stream* in data collection, our strategies started taking shape. We began with simple ones, price to sales, earnings, book value and any variable that would result in a meaningful multiple. Not only such value strategies, we also tested price and fundamental momentum, finding whether growth in price or other financial variables would result in better performance.

Being statisticians, we are believers of data exploration and finding patterns in data that predict real-life parameters. Scores such as *Joseph Piotroski's F score, Prof. Beneish's M score, Altman's Z score, Benjamin Graham's score* etc. attracted our keen interest. We tested various combinations of the scores, value, and momentum parameters, and started realizing what works in equity markets and what does not. Soon the number of strategies tested crossed a century. Once we tracked the strategies in real life, we realized few peculiarities that we had missed while doing the theoretical back-tests. One, complicated strategies, while being immensely satisfying to the intellect, were puzzlingly inefficient as compared to simpler ones. The companies that passed a myriad of filters and found their way in our portfolios via complex models were not better than those obtained by simpler strategies as one would hope. This was a lesson in humility, that for individual security, advanced models may yield better understanding, but for a group of companies, the incremental value of any additional constraint would be marginal or even negative beyond a certain point.

Secondly, when one applies any value criteria to an unfiltered universe of stocks, mediocre names have a higher tendency to end up in the list, because more often than not there is a valid reason as to why those companies are cheap. We could see from time to time several non-investment worthy companies finding their way into the portfolio and squandering away performance. Multi-Act by design has a quality focus where we don't even consider bad quality companies for investment. This being a Quant strategy, we began searching for a meaningful criterion that would help us to identify the bad quality companies.

When it comes to defining quality, there are various schools of thought. What is a quality company? One that has given grand returns, or the one with stellar balance sheet? Because one does not necessarily imply the other. Many good ''active'' analysts spend their time and life on finding, debating, and defending the quality of their favourite company. However, when it comes to atrocious companies, the decision is almost always unanimous amongst prudent investors. Sure, someone with a mal-intent can put lipstick on a pig for a while, but a study of the historical numbers would reveal the true position of that company in a portfolio – the bin!

Any quantitative investment begins with a universe of stocks to further select the portfolio from. Weeding out most of the substandard companies from the universe yields us a healthy list to choose from. After due research, we came up with *Q-score*: a five-point scale that can be applied for any company. It checks whether the company can generate above cost of capital over the long term, operates with reasonable debt with moderate cash conversion cycle and has positive cash flows for most of its history. If the company fails this score, it is called a poor-quality company and we remove it from

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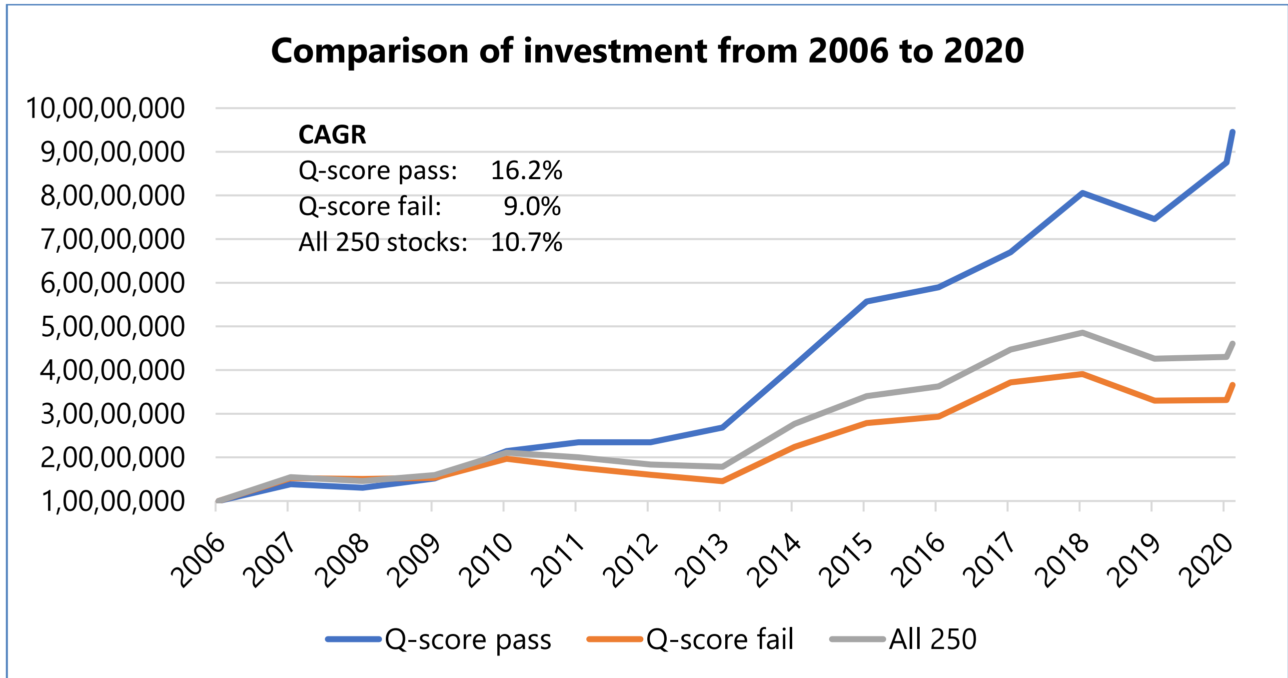
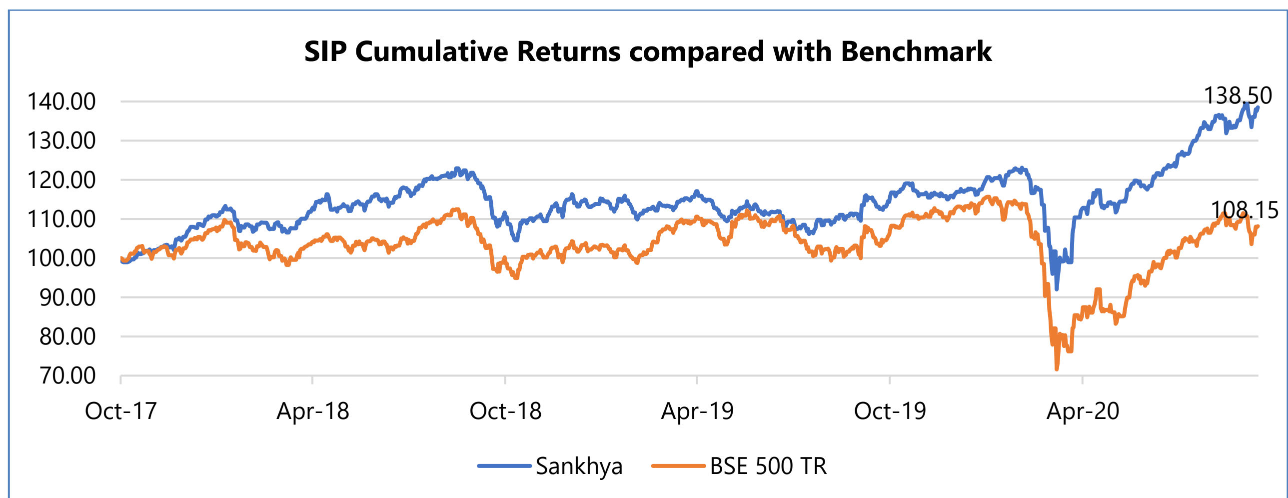
our consideration. We have found that by using Q score alone, the performance of the universe of stocks being considered for investment improves by a healthy margin. The difference between performance of companies that pass or fail on Q score criterion is significant.



Warren Buffet said, “Price is what you pay, and value is what you get.” This quote really talks to us, because chasing the best price would leave us high and dry in the pursuit of returns. Of course, a value investor would love to pay as low a multiple as possible. But it is the combination with profitability of a company that truly brings out the best in value investing in our opinion.

Once we started combining the different pieces, the Q score, profitability, and value together, the Sankhya India Portfolio started emerging in its current shape. The back tests showed it to be our best strategy so far on any parameter. We launched the Sankhya India Portfolio scheme on 17th October 2017 with internal clients, to test the real-life performance and to have an audited track record before opening up for general investments.



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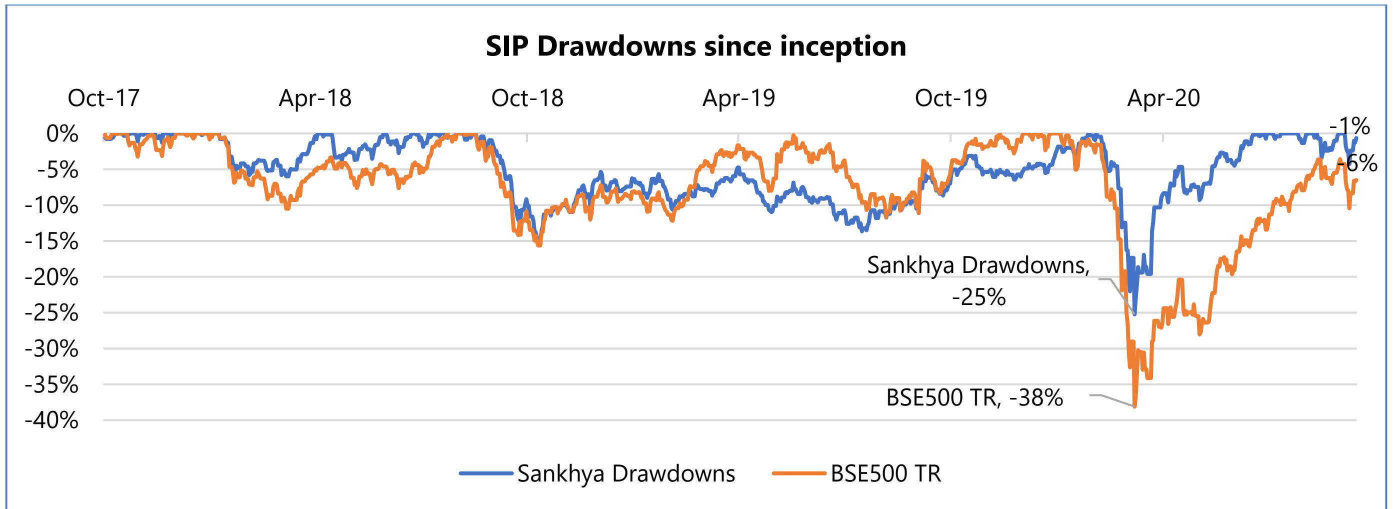
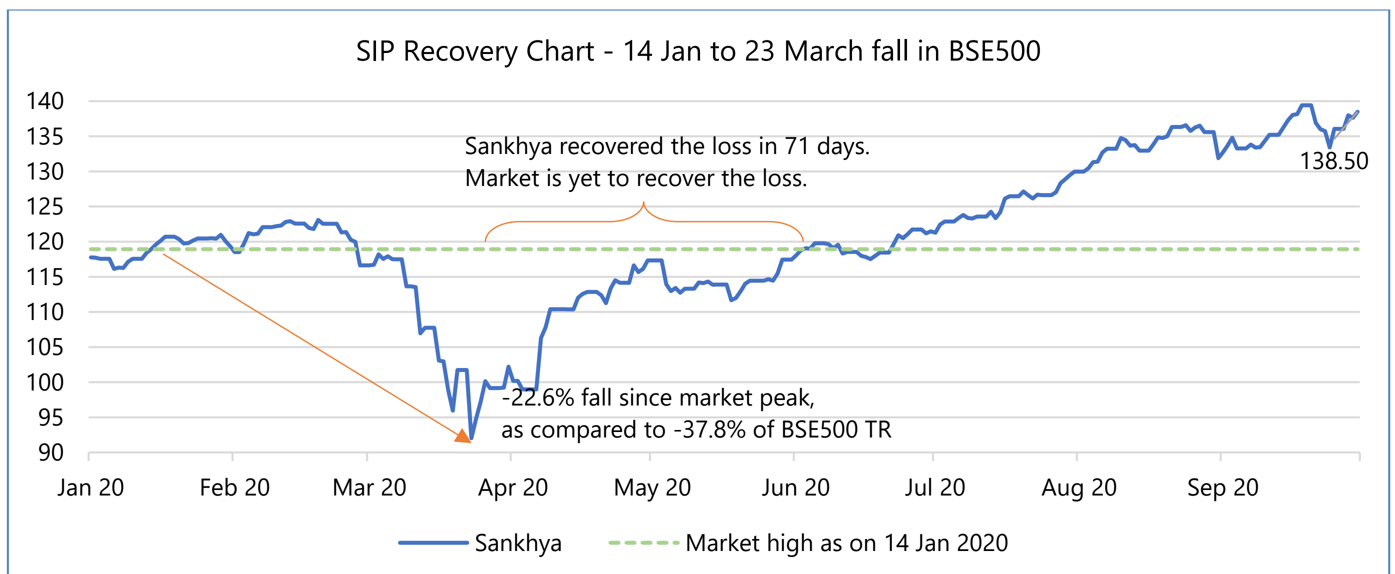
It gives us great pleasure to bring this strategy to you. From back tests as well as actual live investment performance, we found that Sankhya portfolio would routinely have smaller drawdowns with quicker recoveries.



In the great litmus test of this decade, where COVID19 hit the world, as well as equity markets hard at the beginning of 2020, Sankhya continued its journey with similar results, falling less and rising quickly and more sharply than the index.



Sankhya does not take any cash calls, the allocated capital is always fully invested in the market. In the basket of Q score companies, companies that have acceptable quality, we select the companies with relatively better profitability at relatively cheaper prices. The logical outcome of such a portfolio is seen reflected in the numbers as well, with Sankhya performance at 12.13% and BSE 500's performance at 3.44%.

Performance till 30 September 2020	**Sankhya**	**BSE500 TR**
Since inception date 17/10/2017	**12.13%**	3.44%
2 Years	**12.77%**	5.48%
1 Year	**23.05%**	4.62%
6 Months	25.82%	**31.01%**
3 Months	**13.50%**	10.31%
1 Month	**2.68%**	-0.29%

Concurrently, being quants makes us more sensitive to the role of chance in performance. While we are happy to have outperformed the index in this history, this event can be a factor of chance as well. Having said that, we believe the basket of Sankhya stocks is something that any prudent investor would be comfortable to hold onto irrespective of prevailing market conditions.

Statutory Details: Portfolio Manager – Multi-Act Equity Consultancy Private Limited (Registration No. INP000002965)

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Risk factors
General risk factors

a. Securities investments are subject to market risks and there is no assurance or guarantee that the objective of the investments will be achieved.

b. Past performance of the Portfolio Manager or its affiliates does not indicate its future performance.

c. Investors are not being offered any guaranteed or assured returns i.e. either of principal or appreciation on the Portfolio.

d. As with any investment in securities, value of the Client's Portfolio can go up or down depending on the factors and forces affecting the capital market.

e. The Portfolio Manager is neither responsible nor liable for any losses resulting from the operations of the Portfolios.

f. The investments made are subject to external risks such as war, natural calamities, and policy changes of local / international markets which affect stock markets.

g. The Portfolio Manager has renewed SEBI PMS registration effective October 12, 2020 and has commenced its portfolio management activities with effect from January 2011. However, the Portfolio Manager has more than 10 years of experience in managing its own funds invested in the domestic market.

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