Index Alpha – "Core" portfolio for the Long Run

"There are three kinds of investment risk. Two can be virtually eliminated. The third, market risk, must be managed." – Charles D. Ellis[i]

Executive Summary

Index Alpha is a managed portfolio of index funds/etfs that aims to deliver equity like returns with bond like volatility and drawdowns over the long term i.e. provide improved risk-adjusted returns[ii]. This can therefore be a low risk "Core" portfolio for most investors looking to build wealth over the long run with lesser volatility and drawdowns.

The three pillars on which this portfolio solution is built is:

1. Bridge investor 'Behavior Gap' which costs investors approximately 4% p.a.[iii]
2. Build investment discipline by process driven systematic investing and risk management
3. Use low cost, transparent and easy to understand passive investment products like index funds

Index Funds have been advocated by Nobel Laureates like Paul Samuelson to renowned investors like Warren Buffett and Ed Thorpe as the best vehicle for investors to capture long term equity returns. It is well documented now by S&P's research that majority of mutual funds, globally and in India, are unable to beat their benchmarks. Hence, odds of choosing an out performing mutual fund are worse than a coin toss.

What does Index Alpha portfolio solution do?

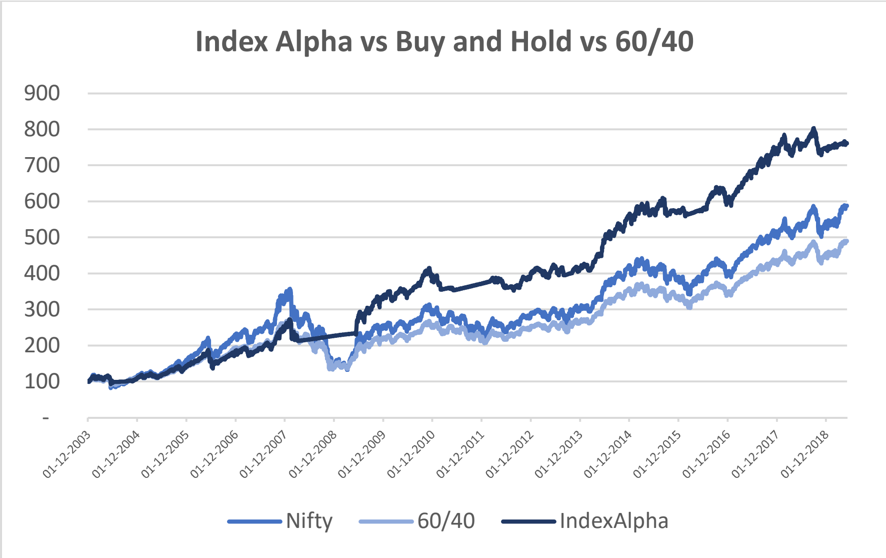
Sometimes during a match, the weather turns bad and play is called off by umpires. IndexAlpha portfolio solution is like that umpire keeps an eye on match conditions like the pitch, light, weather conditions etc. and they impose certain restrictions or stop play when the weather is bad or for other reasons, play cannot take place. Similarly, when financial markets start showing signs of turbulence and downtrend, Index Alpha's portfolio solution which is based on a tactical asset allocation system starts reducing equity allocation and takes cover until good conditions or an uptrend resume. As you can see in the table below in times of high market turbulence, Index Alpha portfolio solution has had much lower drawdowns than the market and consequently has also recovered faster.

Time Period	Nifty	60/40	IndexAlpha
Feb 15-Feb 16	-22.8%	-18.2%	-8.4%
Oct 10 - Dec 11	-35.1%	-22.2%	-15.0%
Jan 08 - Oct 08	-62.6%	-50.7%	-22.0%

2003-2019	Nifty	60/40	IndexAlpha
Returns	12.3%	11.0%	14.2%
Std Dev	22.0%	16.4%	13.5%
Sharpe	0.24	0.24	0.54
MaxDD	-62.9%	-50.7%	-27.4%
% Positive Days	51%	51%	63%
MoC	5.9	4.9	7.6

*Summary Statistics from 2003-2009 (March)

We have overlaid a tactical asset allocation model over a portfolio of Nifty 50 and Nifty Next 50 which will give index like returns with lower bond like volatility and much lower drawdown than a buy and hold Nifty 50 strategy.



Equity Curve from 2003 to 2009 (March)

How do I use Index Alpha?

1. It is a tool to manage portfolio risk. It will protect the portfolio from extreme drawdowns and from tail risk events. However, in sideways markets there will be whipsaws, or false positives. It is not a tool to enhance returns by timing the market.
2. Over a cycle, protecting downside risk will help in enhancing returns if one sticks to the process. It is not a technique that will lead to outperformance in. In fact, it may underperform during roaring bull markets or sharp V-shaped recoveries.
3. It is a simple to understand but tough to follow, over long periods, portfolio solution driven by tactical asset allocation.

Source: Nifty 50 TRI Data. Past performance is no guarantee of future results. Chart is provided for illustrative purpose and reflects hypothetical historical performance. Please see the Performance Disclosure at the back of this report for more information regarding the inherent limitations associated with back-tested performance.

Index Alpha – Your Core Portfolio for the Long Run

Most investors, both institutional and individual, will find that the best way to own common stocks is through an index fund that charges minimal fees. Those following this path are sure to beat the net results (after fees and expenses) delivered by the great majority of investment professionals

Warren Buffett

Introduction

The one thing that investors like Warren Buffett and Edward Thorpe, Nobel Laureate academics like Eugene Fama and Paul Samuelson, famous finance authors like Burton Malkiel and Charles D Ellis and most fee only advisors agree on – **Index Funds are best suited for most investors and will outperform majority of professional investors over the long run**.

Let us take a step back and look at what is an index and what is an index fund.

What is an Index?

An Index is like the country's cricket team. Like the cricket team reflects or is a broad index of the best talent that the country has to offer, a broad index fund like Nifty 50 reflects the quality and strength of the underlying stock market.

For example, let us take Nifty 50 and the Indian Cricket team here. The best players with different abilities like, batting, bowling, allrounders and wicket keeping, are chosen to make a balanced team. This team then goes out and plays under various conditions and wins (and at time loses) matches/series which adds up to a long term track record for the team. The team is evaluated periodically before every series. Non-performers are dropped and replaced with players having better potential. Similarly, an index fund comprises of the companies from different sectors like banking, financial services, FMCG, metals etc. to create a balanced portfolio which represents the underlying stock market. Nifty 50 stocks cover about 67%[iv] and Nifty Next 50 stocks cover about 13%[v] of the total market capitalization of stocks listed on the National Stock Exchange.

Depending on the talent available sometimes the team is strong in batting and stronger in fielding and bowling at other times. Similarly, the Index will have representation of all large sectors, but there will be one or two sectors driving returns. In the recent past returns have been primarily been driven by the banking and financial services sectors. In the past Information Technology, Energy and Industrials have been drivers of returns. But these returns mean revert, as the sector attracts more capital and competitive intensity. Similarly, batsmen will be studied closely by bowlers of opponent teams and they will try and exploit the batsman's weaknesses. So, the batsman then has to raise his skill level or his performance revert to mean and then he is soon replaced by another new player. Those who adapt and up their game stay both in the Index and in the Cricket team.

Performance numbers are transparent, and no one can game those. And there is always competition who is ready to take your place in the team and in the Index Fund.

The best players make it to the national team. Like the Indian team, some players like Sachin, Dravid, Ganguly, Dhoni, Virat, etc. rise to the highest level and grow even further from there. And there are many one-two match wonders who are not able to sustain their game at the international level and are eventually dropped after given enough chances. Similarly, the best performing companies, measured by market capitalization, average daily turnover and other criteria[vi], make it to the top indices. HDFC Bank, Reliance, HDFC or a TCS have made it to the index and kept their place over a long period because they have performed in the past and then maintained their performance. Sometimes companies like Suzlon, Unitech or JP Associates also make it. But they are not able to sustain their performance at the highest level and fall off very quickly. The index is rebalanced every six months and non-performers are weeded out. The index committee follows the pre-decided criteria for inclusion/exclusion and drops companies which no longer meet the criteria of being part of the index and replace them with other companies which best meet the criteria.

So now you have a fairly good idea that the broad-based index like Nifty 50 or the Nifty Next 50 represents the underlying stock market.

What is a Nifty 50 Fund?

Any other broad-based Index fund replicates the portfolio of stocks with the same weightage that are there in the underlying index, in this case the Nifty 50. So, if Nifty 50 comprises 10.8% of HDFC Bank, 4.8% of TCS, 9.5% of Reliance and so on, the Nifty 50 will own the same stocks in the same proportion. And every six months when the index is rebalanced, the index fund follows suit.

Introducing Index Alpha

> *"The average long-term experience in investing is never surprising, but the short-term experience is always surprising. We now know to focus not on rate of return, but on the informed management of risk."*
> *– Charles D Ellis*

Index Alpha is a portfolio solution of equity ETFs which can be the "Core" portfolio solution for investors built on the three pillars given below:

1. Bridge investor 'Behavior Gap' which costs them approximately 4% p.a.
2. Build investment discipline by process driven systematic investing and risk management
3. Use low cost, transparent and easy to understand passive investment products like index funds

It aims to deliver, superior risk adjusted returns to broad based indexes by managing downside risk. This is done in two ways, one by determining allocation between equity and debt and secondly by using reducing equity exposure during downtrends.

Sometimes during a match, the weather turns bad and play is called off by umpires. IndexAlpha portfolio solution is like that umpire keeps an eye on match conditions like the pitch, light, weather conditions etc. and they impose certain restrictions or stop play when the weather is bad or for other reasons, play cannot take place. Similarly, when financial markets start showing signs of turbulence and downtrend, Index Alpha's portfolio solution which is based on a tactical asset allocation system (big words explained in definitions at the end) starts reducing equity allocation and takes cover until good conditions or an uptrend resume.

We put this portfolio solution to test on the Nifty 50 and Nifty Next 50. Over the long run risk adjusted returns from Index Alpha aim to match or do better than Nifty Buy & Hold (Nifty B&H) or a balanced portfolio with 60% equity and 40% Debt (60/40) with lower risk. And that is what this portfolio solution focuses on.

2003-2019

	Nifty B&H	60/40	IndexAlpha
Returns	12.3%	11.0%	14.2%
Std Dev	22.0%	16.4%	13.5%
Sharpe	0.24	0.24	0.54
MaxDD	-62.9%	-50.7%	-27.4%
% Positive Days	51%	51%	63%
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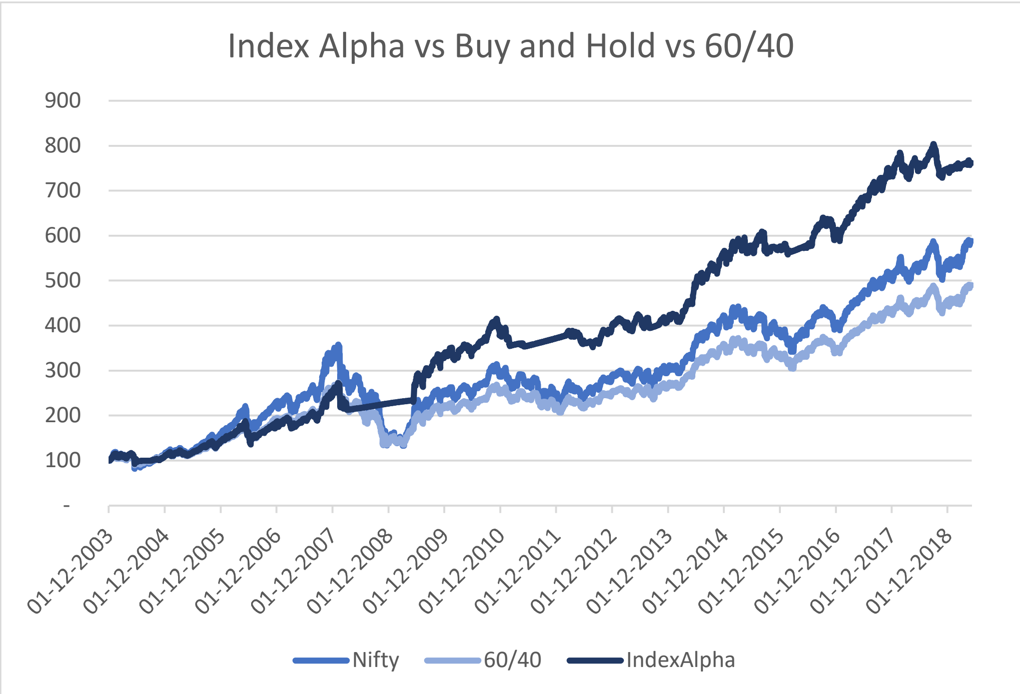
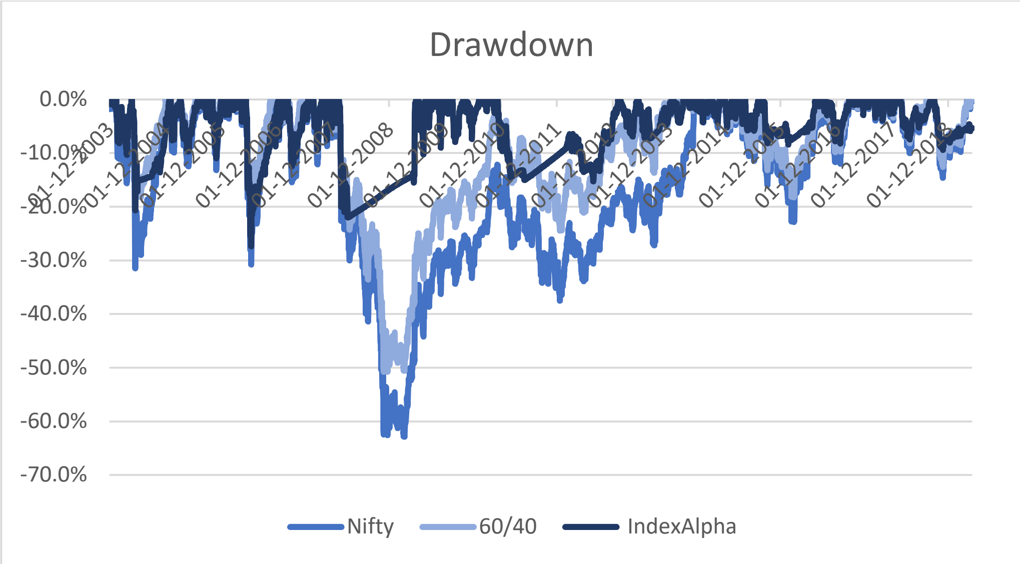
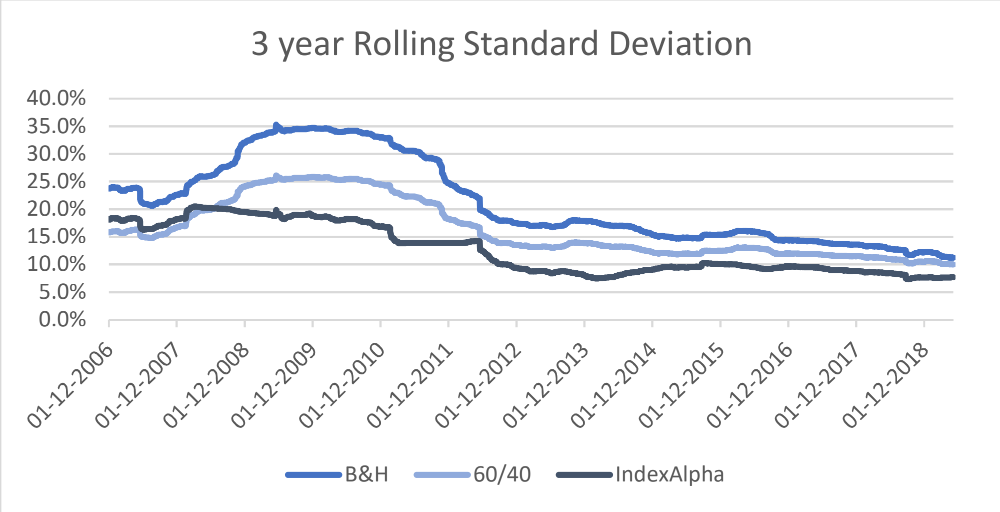


The other graph below shows drawdown of a B&H portfolio, a portfolio comprising 60 stocks/40 debt and Index Alpha. The B&H portfolio and the 60/40 portfolio have gone through 25-30% drawdowns quite regularly and the big one was obviously the 60% drawdown B&H saw in 2008.



Index Alpha returns are also less volatile over 3-year periods. We plotted 3-year rolling returns of Nifty B&H vs Index Alpha over 2006 to 2019. There are periods where B&H outperforms Index Alpha only to mean revert and give back returns. At times such volatility in returns shakes investors out of their predetermined investment plan.

Index Alpha consequently has a much lower volatility measured by standard deviation. The graphs below show the rolling 3-year volatility for B&H, 60/40 and Index Alpha portfolios respectively.



Summary – What is Index Alpha?

1. <u>It is a tool to manage portfolio risk.</u> It will protect the portfolio from extreme drawdowns and from tail risk events. However, in sideways markets there will be whipsaws, or false positives. It is not a tool to enhance returns by timing the market.
2. <u>Over a cycle, protecting downside risk will help in enhancing returns if one sticks to the process</u>. It is not a technique that will lead to outperformance in. In fact, it may underperform during roaring bull markets or sharp V-shaped recoveries.
3. It is a simple to understand but tough to follow, over long periods, portfolio solution driven by tactical asset allocation.

Conclusion

Investments are a means to an end. They are meant to help us achieve our financial goals. Investment is not about finding the best performing fund or investor, but unfortunately that is what most investors and financial media focus on. As investors we should first determine our investing goal, our risk tolerance and ability and our investment horizon. And then we should look for investment solutions that fit our needs.

We also need to get there in least risky manner as possible. But we need to have discipline and we need to let the process of compounding do its work.

Stay the course

Jack Bogle, Founder, Vanguard Group

FAQs

What is "Core and Satellite" portfolio construction?

"Core and Satellite" is portfolio construction approach to address long term goals and allocate between passive and active investment vehicles. The "Core" comprises low cost, diversified, passive products like Index funds. This "Core" portfolio is reviewed periodically and rebalanced if needed, to adjust weights back to its original risk profile after considering tax impact, whether portfolio is on track to meet goals and other considerations. "Satellite" portfolio comprises of actively managed strategies which are less correlated and offer potential for outperformance.

The allocation between core and satellite should be done after a detailed risk profiling on various factors like Investment Goal, Horizon, Age, Risk, Income, Dependents etc.

What is the Index Alpha portfolio solution based on?

Index Alpha portfolio solution is based on a combination of long-term quantitative trend and momentum models. These have been academically acclaimed, peer reviewed documented and back tested over long periods. They are Quantitative Approach to Asset Allocation and Dual Momentum. You can read more about them here and here. We use a combination of approaches to diversify model specific risk.

We all know how to lose weight and get into shape: eat less and exercise more…that is **simple** *- but it is not* **easy.** *Investing is no different. Stick to the basics with discipline.*

Cliff Asness, Founder, AQR Capital

Why does such a simple strategy work?

A simple strategy works over time because it doesn't work all the time. There are two major reasons why simple strategies work over time. Because they don't always work in the short term. And the long run is nothing buy a series of short terms. While we make our decisions for the long term, we are going to most likely look at the short-term performance before investing in a fund or a manager. Hence mutual fund managers do not like to deviate too much from the benchmark they are tracked against. This is called career risk. The aim of the fund manager is not to get fired in the short term. And hence they will try and stay close to the index benchmark as far as possible. However, over the longer run they are not able to overcome the drag caused by a 1.5-2% fee.

The second reason is that individual investors are not disciplined or do not have a process to make investment decisions. Hence, they enter and exit funds at time when they are supposed to be doing the opposite. This has been documented in most markets and is called "Behavior Gap." This is the gap between what a fund or stock makes and how much an investor who has invested in the fund is able to harvest or actually make.

Can I do this myself?

This strategy sounds very simple. I can do it myself. Well, yes you can, and we encourage you to do. But if you have a process which does the thinking for you and gives you inputs at a significantly low cost; wouldn't it be better to have that. Sometimes, we wait for the perfect time to start investing, even though we know there is no such thing as the perfect time. Sometimes we want to wait for events like elections, company results, budget etc. and then invest. And in doing so we leave our money in a fixed deposit or worse a savings bank account until we decide.

A study conducted by Prof Sankar De and his team at Indian School of Business (ISB) reveals that Indian retail investors would have lost Rs 8,376 crore between January 2005 and June 2006. Prof De believes that in most cases, over confidence results in wealth loss.

He goes on to state that "An individual managing others' money suffers much lower losses than when he manages his own money because when you manage your own money, you are much closer to it psychologically than when you manage somebody else's money. You can't keep a position of distance. It's like the golden rule for doctors. They rarely treat their own children because they know too much about their wards, which at times could impede logical treatment."[vii]

But that doesn't mean you can't do it. However, you must be aware of what biases could creep in and ensure that you keep them at bay. And call in a fee only financial planner for advice or help when the need arises.

Why don't I just buy the index fund and be done with it?

The returns look pretty good. And I know that in the short term there will be some drawdowns, but I am a long-term investor. (while I do check my portfolio at least once a day to see if all is well). Sounds like a plan.

Everyone has a plan until they are punched in the face - Mike Tyson

We have done the calculations on that and given those in the Index Alpha section and reproduce them below. Now close your eyes and imagine going through a 30-40% drawdown or a 60% drawdown that we saw in 2008. Investors who started investing in equities prior to 2008 remember Dotcom Bust 1999-2000, and Great Financial Crisis - 2008 quite well. Post 2008 volatility across markets, especially in equity markets has been considerably muted relative to previous decades but that doesn't mean that the next decade or two be similar. So, we have to be prepared for all scenarios because no one is going to ring a bell when those events occur and neither are, we going to know that in advance. We cannot predict the future but it better to be prepared with a plan of what our actions would be in downtrend or high volatility scenarios.

2003-2019

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What is the difference between IndexAlpha PMS and smallcase?

IndexAlpha PMS is a customized portfolio constructed after taking into account your specific goals, investment horizon, risk tolerance and tax considerations. This portfolio is reviewed and rebalanced regularly by us considering the above factors.

IndexAlpha smallcase is a DIY index investing model strategy that can be used by most investors to meet their long term goals either by lumpsum investing or SIP.

Both have the same underlying rationale and use the same strategies with respect to portfolio construction, rebalancing and other aspects.

(Written by Anish Teli, Portfolio Manager with contributions by Aayushi Shah, Quantitative Analyst)

Definitions

CAGR – Compounded Annual Growth Rate

Max DD – Maximum Drawdown is the peak to trough decline of an investment during a specific period

MoC - Multiple of Capital

Sharpe Ratio - is the average return earned in excess of the risk-free rate per unit of volatility or total risk

Tactical Asset Allocation - is an investment style in which the asset comprising of a portfolio are periodically rebalanced and adjusted. The ultimate aim of tactical asset allocation is to maximize portfolio returns while keeping market risk to a minimum, as compared to a benchmark index

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[i] 2001 - Winning the Loser's Game, 3rd edition
[ii] 2014 - A Quantitative Approach to Tactical Asset Allocation by Mebane T Faber
[iii] Why Average Investors Earn Below Average Market Returns
[iv] About Nifty 50 Index
[v] About Nifty Next 50 Index
[vi] Nifty Broad Market Indices – Methodology Document
[vii] Disposition effect & over-confidence trigger investor losses in stock markets: Sankar De, ISB