SATTVIC WEALTH.

PRODUCT NOTE

Framework

Statistical Arbitrage in derivatives trading involves using models to identify and exploit price discrepancies between related financial instruments. While there are multiple forms of Statistical Arbitrage strategies, we primarily focus on Equity indices and stocks.

Statistical Arbitrage is different from pure play Arbitrage trades in which the total risk is always zero and the outcome is risk-free return.
Index based Statistical Arbitrage is a hedged strategy which takes advantage of relative value differences in the implied volatilities between an index and constituent stocks of the index. It is a covered strategy without any open/naked positions, thus immune to extreme market movements like circuits.

In Sattvic Bharat Wealth Fund, the strategy aims to benefit from difference in: A - Higher option premiums in stocks due to their higher individual volatility
&
B- Lower option premiums in indices due to their lower volatility on the back of diversified stock components

The underlying view in the strategy is that all the stocks will not break out together from their normal volatility range in a month. And if they do, it will result in a significant movement in the indices (overall market) also.
To explain it simply as an example, group health insurance is cheaper than individual health insurance, even if the insurance benefits are same. Insuring a group carries lesser risk for the Insurance company vis-à-vis insuring an individual independently. Exploiting the difference in the cost between the group and the individual while maintaining the same result is effectively the strategy used in Options Trading.

The resultant profits due to difference in components A and B mentioned above is not a fixed certain amount but variable monthly profit/loss which has much lower deviation as compared to equity markets and a much higher annual profitability that risk-free fixed income markets. Moreover, the maximum possible loss is a finite amount not exceeding 3% of the fund size in any given quarter.

Fund Components

Underlying Portfolio: The fund will invest in Indian government bonds with residual maturity around 3 years having annualized yield of around 7%.
Derivatives Strategy: Based on the framework mentioned earlier, strategy entails two different and simultaneous exposures:

Short Straddles/Strangles on all the liquid stocks listed on Futures & Options segment (higher premium component)
&
Long Straddles/Strangles on NIFTY Index (lesser premium component)

Based on Nifty Index premium levels, there could be positions in weekly Short Straddles/Strangles to benefit from theta (time decay of option premium).

The strategy is not a passive execute-and-forget trade. It involves active tracking of positions and continuous maneuvering in both the stocks and NIFTY positions to ensure that we close the month at profits.

Apart from the above components, the strategy also involves buying weekly out-of-the-money NIFTY options to hedge from extreme market movements like index circuits.

Strategy Performance

The strategy has been deployed in our proprietary trading book in India. The monthly performance since January 2022 has been tabulated below:

Month	2022	2023	2024
January	-0.82	1.91	1.31
February	1.75	2.52	0.13
March	1.87	-0.72	0.21
April	1.89	2.72	
May	1.62	1.56	
June	1.09	1.85	
July	1.91	0.65	
August	1.02	1.48	
September	2.24	0.33	
October	0.79	1.88	
November	0.17	0.35	
December	3.26	2.84	
Total Returns	**16.79**	**17.37**	
Quarterly Average	**4.20**	**4.34**	

Strategy Payoff Scenarios

The options strategy we are deploying is not a risk-free strategy.
The quarterly profit/loss depends on the nature of movement in stocks and NIFTY – more so on if they are moving in tandem or if the divergence between them is very high.

Scenario	Quarterly divergence in NIFTY and Stocks	Expected Quarterly Strategy Returns
1	Divergence is normal, in range of 0-3%	3% to 6%
2	Divergence is high, 3% or more	-1% to 1%
3	High divergence that happens in last weeks of expiry	-3% to 0

The strategy risk and maximum mark-to-market loss is tracked on a live basis and protective index options are utilized to ensure that significant market movements like index circuits will result in profit for investors.

We have a hedging mechanism in place by purchasing protective options to limit max loss to 3% in a quarter.

The data shown is based on past market performance and scenarios. Future profit/loss will depend on actual volatility and divergence between index and the stocks.

Risk Management

Sovereign Risk: Underlying investment is in Indian Government Bonds. There is a risk if Indian Government defaults in repayment. It has never happened in history. Exchange Risk: Trades in derivatives are done on National Stock Exchange of India (NSE). If exchange or clearing house goes bankrupt, our settlement funds may be defaulted on. They are regulated entities and such event has never happened in India.

Foreign Currency Risk: Fund collects investment in USD or GBP and converts to INR for deployment in India. Reconversion on future date exposes the amount to FX risk. We will be hedging it using Currency derivatives listed on NSE.

Operational Risk: Internal and external operations risks exists like natural calamities, system failures, internet downtime, fat finger errors, execution errors etc. We follow all standard operational risk management techniques like back up serves, back up internet, maker-checker processes, tech software's to detect errors and autocorrect, etc.

Summary

The efficacy of the strategy lies in the efficiency of execution & thorough focus on risk-reward payoff on an ongoing basis. We deploy a significant portion of premiums collected by selling stock options each month towards hedging and limiting the maximum loss every quarter. Since the strategy is not driven by an automated algorithm, our execution and risk management teams have discretion to decide on position sizing, selection of strikes, when to enter/exit the trades, etc. This ensures agile management of trades to yield consistent returns on a quarterly basis.

Reiterating the value of the underlying portfolio, even if no derivatives positions are executed, government bond returns will still yield 7% p.a. on GBP or USD basis, before considering the currency hedging cost.

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