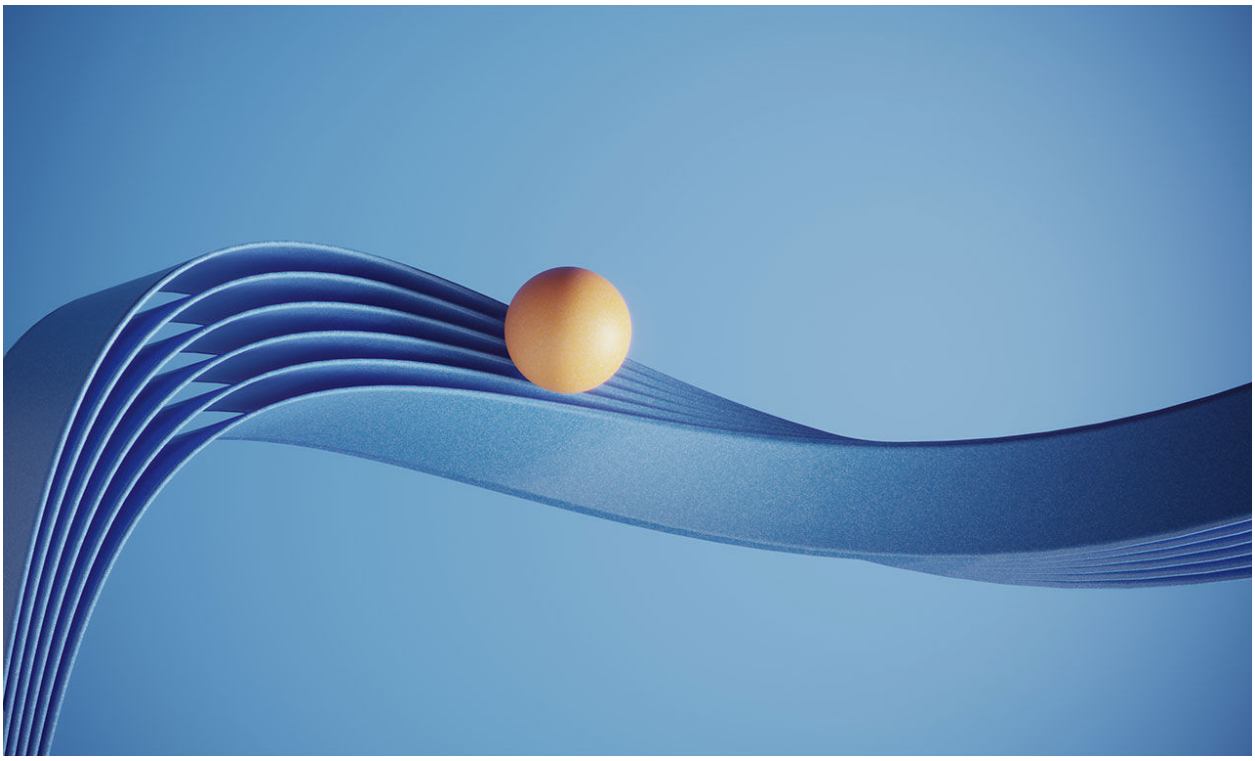
The Beauty of Momentum Investing.



Momentum investing is a popular investment strategy that seeks to capitalize on the tendency of financial assets to continue their recent performance trends. At its core, momentum investing is grounded in the belief that securities that have performed well in the past are more likely to perform well shortly, while those that have performed poorly will continue to do so.

Let’s explore this idea further using the Nifty 500 universe.

But before that…

Fixing a critical survivorship bias as much as possible is essential to analyze the results better.

The problem:
The Nifty 500 universe we are using consists of stocks present in the index as of 2023, but there is an absence of companies that were a part of the index or delisted. This makes it unfair to compare the results of the momentum investing to the actual nifty 500 index.

Potential solution:
We create our own ETF, an equal-weight index of all the stocks in our universe, which again is not the best measure as equal-weight indices usually perform better than their cap-weighted counterparts, but this helps us cement our hypothesis because if the system beats this index, it is very likely to beat the equal weight index as well.

Defining the Dataset:

This test uses the Nifty 500 stocks and a couple of approaches to momentum investing.

Approach one:
Picking top n stocks based on absolute returns. Holding and rebalancing it after a fixed timeframe.

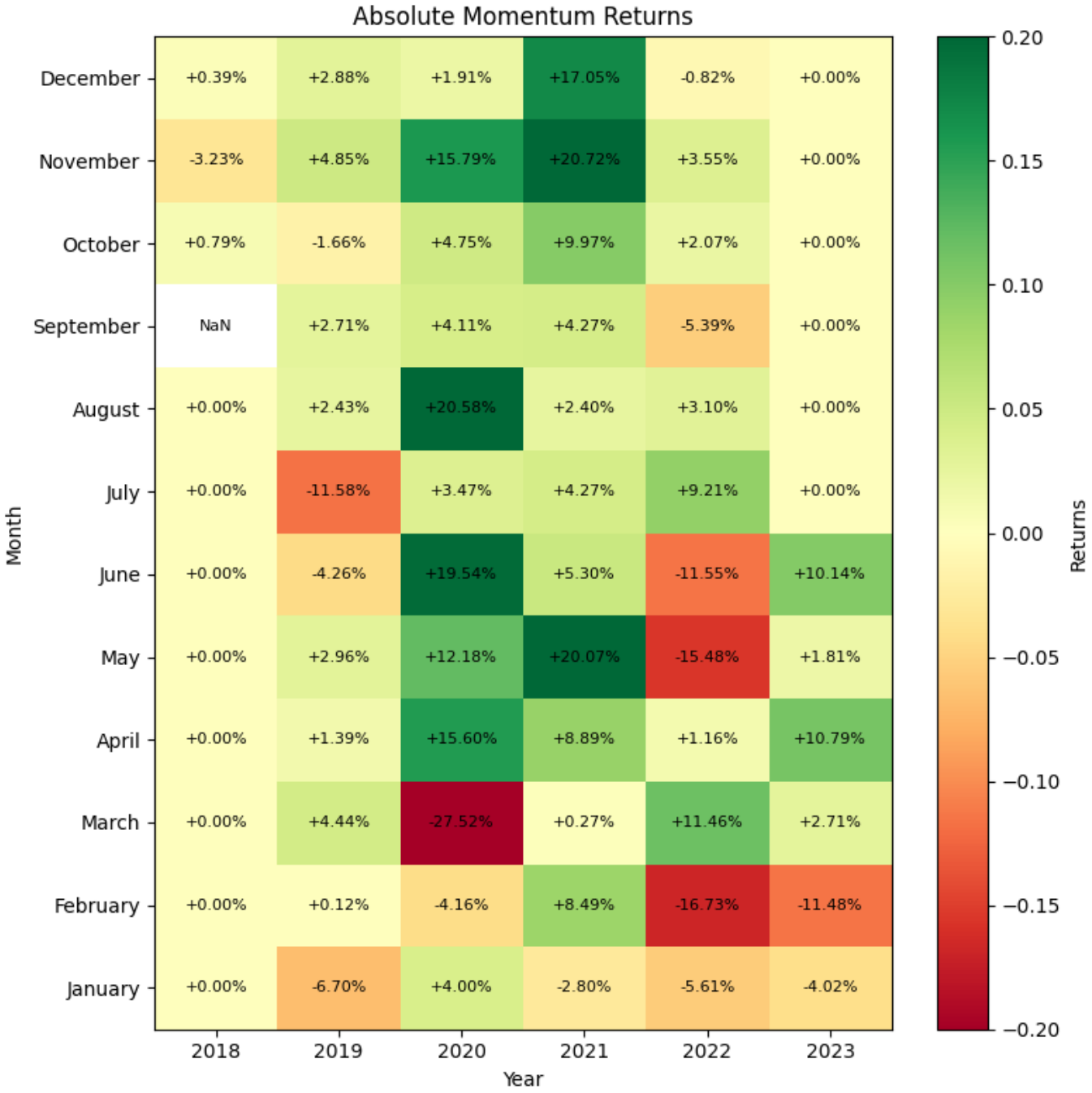
Approach two:
Picking top n stocks based on volatility-adjusted returns. Holding and rebalancing it after a fixed timeframe.

Let's take a look at the first approach and its results. For this, we review one year of data and rebalance every month.

Quite a few exciting results there!
Let’s look at a few statistics.

	Total Returns	CAGR	Drawdown	Stddev
Absolute Momentum	280%	24.1%	-50.36%	0.88
Market	211%	17.05%	-39.96%	0.45

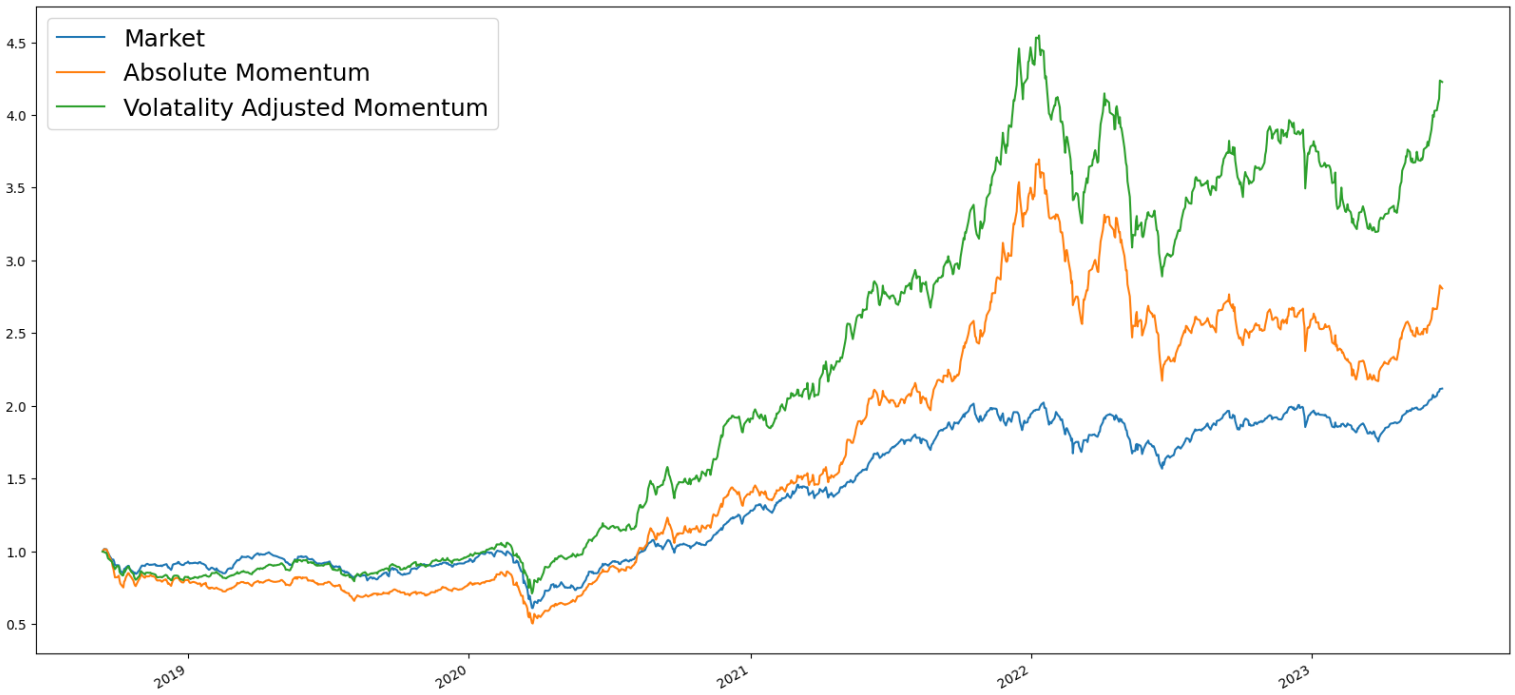
As we can see, quite some outperformance can be seen, but it comes at the cost of a more volatile portfolio.


Absolute Momentum Returns
December
November
October
September
August
July
June
May
April
March
February
January
Month
+0.39% +2.88% +1.91% +17.05% -0.82% +0.00%
-3.23% +4.85% +15.79% +20.72% +3.55% +0.00%
+0.79% -1.66% +4.75% +9.97% +2.07% +0.00%
NaN +2.71% +4.11% +4.27% -5.39% +0.00%
+0.00% +2.43% +20.58% +2.40% +3.10% +0.00%
+0.00% -11.58% +3.47% +4.27% +9.21% +0.00%
+0.00% -4.26% +19.54% +5.30% -11.55% +10.14%
+0.00% +2.96% +12.18% +20.07% -15.48% +1.81%
+0.00% +1.39% +15.60% +8.89% +1.16% +10.79%
+0.00% +4.44% -27.52% +0.27% +11.46% +2.71%
+0.00% +0.12% -4.16% +8.49% -16.73% -11.48%
+0.00% -6.70% +4.00% -2.80% -5.61% -4.02%
2018
2019
2020
2021
2022
2023
Year
0.20
0.15
0.10
0.05
0.00
−0.05
−0.10
−0.15
−0.20
Returns

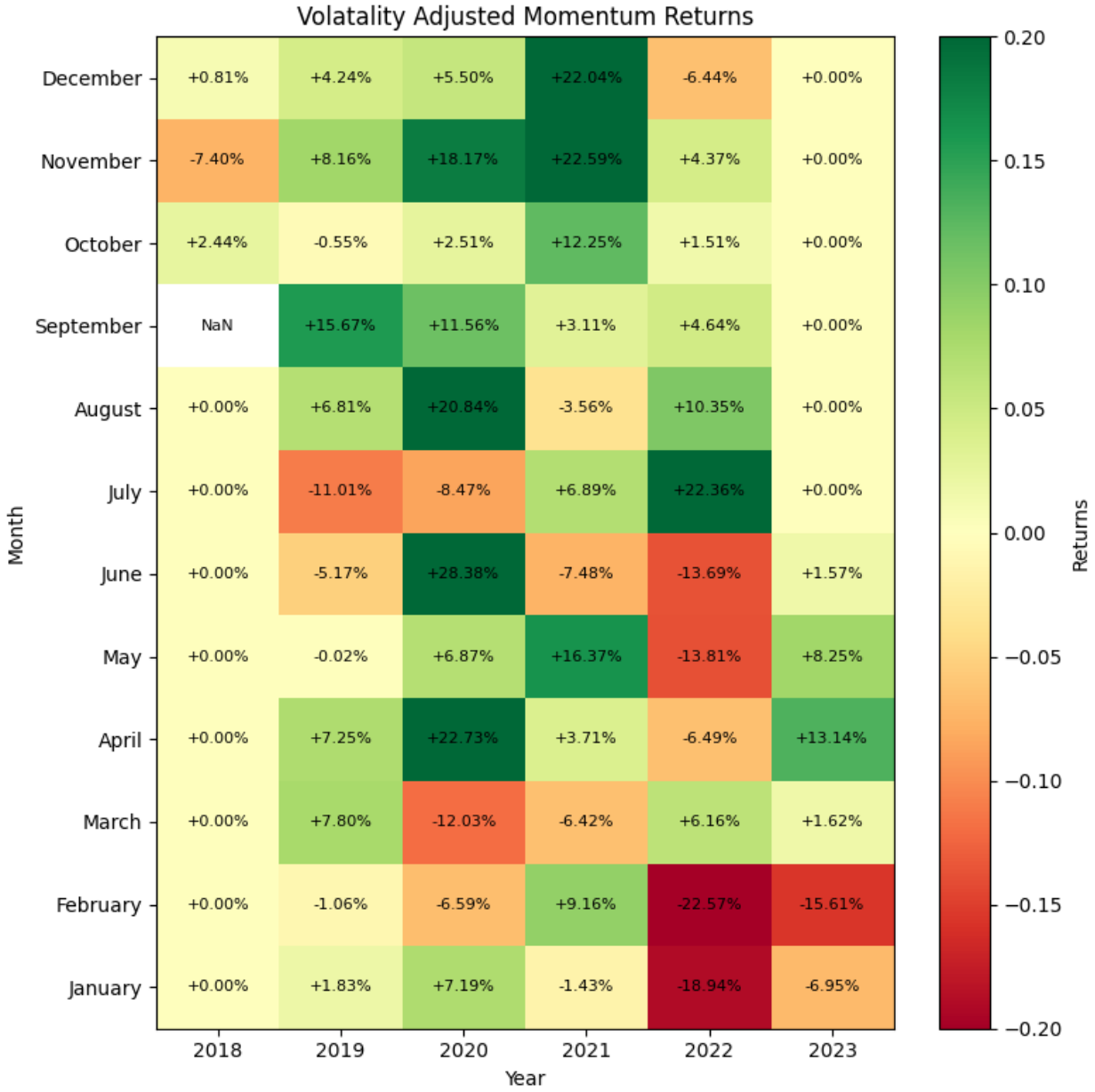
This approach does beat the market, but can we do better?

Approach 2:

This is where we select the stocks based on returns and volatility-adjusted returns. I.e., returns divided by annualized volatility. Let's see what the number says:



Amazing RESULTS! Lesser drawdowns, higher returns, and higher volatility are very well compensated.
Numbers:



	Total Returns	CAGR	Drawdown	Stddev
Volatility-Adjusted Returns	422%	35.28%	-36.43%	1.22
Absolute Momentum	280%	24.1%	-50.36%	0.88
Market	211%	17.05%	-39.96%	0.45

Well, that was interesting. How does diversification affect the numbers?

Now, we plot how the number of stocks affects the CAGR/STDDEV.

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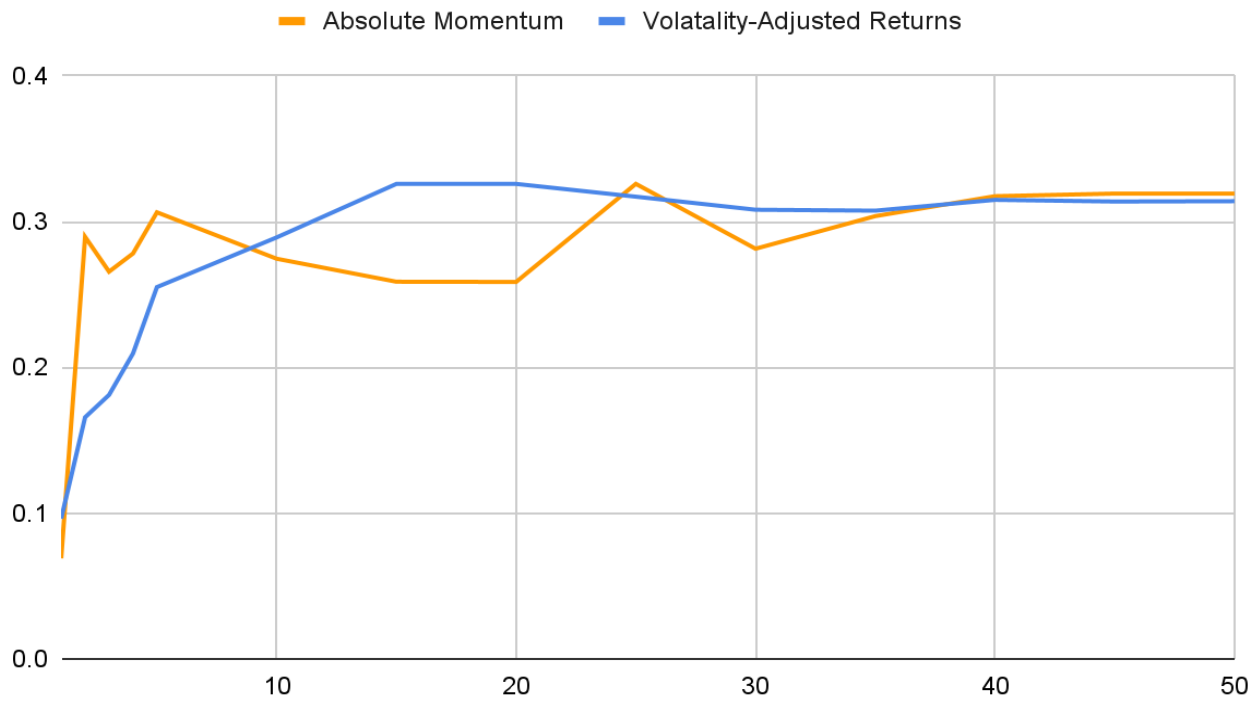

It seems like diversification benefits seem to wear out about 40 stocks. Volatility-adjusted portfolios have a higher standard deviation, but that risk is very well rewarded.

Conclusion:
As explored through the lens of the Nifty 500 universe, Momentum investing presents some fascinating insights. By leveraging the power of momentum, investors can potentially outperform traditional market indices. However, it's essential to acknowledge certain nuances in this investment strategy.