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Indices

Nifty100
Alpha30

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NIFTY100 Alpha 30

Smart beta index strategy capturing
recent performers within the large cap segment

Introduction

Baseball, 150 year old sport is one of the most widespread and spectated game in the United States of America (USA). Teams draft or sign a player based on the "gut feelings" of their scouts who have watched players and judged them on their appearance and athleticism. However, this orthodox method was challenged and history was created when "Oakland Athletics", an American professional baseball team, went on to win 20 consecutive wins in 2002 American League. What worked in favor of Oakland Athletics, was that the team manager rather than relying on scouts experience and intuition, used sabermetrics, a statistical approach, in selecting the players for each game. Sabermetrics aims to quantify baseball players' performances based on objective statistical measurements.

Analogous to the game of baseball, Alpha factor based smart beta index strategy relies on using statistical approach referred as "Jensen's Alpha" in determining the constituents of the portfolio for each reconstitution frequency. The theme uses statistical approach such as alpha factors in selecting stocks that have recently provided higher risk adjusted excess return, rather than using the traditional method of selecting stocks based on market cap.

Smart Beta based investment styles have gradually garnered traction among the investor cohort. Smart Beta theme revolves around factor-based investing style, an alternative strategy to traditional 'Market-cap weighted' strategy. Assets under management (AUM) in Smart Beta ETF/Ps listed globally reached a new high of $756 bn in June 2019, contributing ~14% to the ~$5.64 trillion global ETF/Ps industry as on June 2019. Assets linked to Smart Beta ETF/Ps have grown at commendable 19.9% CAGR in last 5 years across the globe. (Source ETFGI report). Popular single & multi factor smart beta products are typically based on factors such as Alpha, Quality, Low-volatility, Value and Dividend Yield.

NIFTY100 Alpha 30 index measures the performance of top 30 securities with high 'alpha' scores selected from a universe of NIFTY 100 index. The alpha score for each company is determined based on Jensen's alpha computed using 1 year trailing prices. Jensen's Alpha for a stock signifies the excess return that the stock has delivered over and above its expected return as measured by the Capital Asset Pricing Model (CAPM). The NIFTY100 Alpha 30 index presents an ideal fit for investment community looking to align their investments on alpha based strategy. NIFTY100 Alpha 30 Index can be used for a variety of purposes such as benchmarking fund portfolios, launching of index funds, ETFs and structured products.

About NIFTY100 Alpha 30 Index

NIFTY100 Alpha 30 index aims to measure the performance of top 30 large cap securities selected based on alpha score from the NIFTY 100 index. The weight of each stock in the index is based on the combination of stock's alpha score and its free float market capitalization. The alpha score for each company is determined based on Jensen's alpha computed using 1 year trailing prices. Jensen's Alpha is a risk-adjusted performance measure that represents the average return on an investment, above/below that estimated by the Capital Asset Pricing Model (CAPM), given the stock's historical Beta and average market return. NIFTY100 Alpha 30 seeks to combine the stock-specific 'Alpha' factor used in active investment with the rules-based frame work of passive investment.

Exhibit 1: NIFTY100 Alpha 30 index combines the best of active and passive investment styles

Passive Investment Style

Rule-based portfolio design

Active Investment Style

Factor based stock selection

NIFTY100 Alpha 30
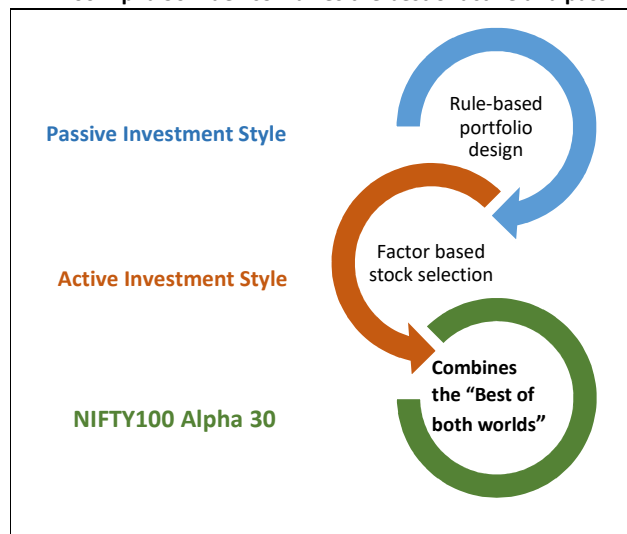
Combines the "Best of both worlds"

Exhibit 2: Definition of Jensen's Alpha

Jensen's Alpha = Realized return of a stock – Expected return as defined by Capital Asset Pricing Model (CAPM)

$$\textbf{Jensen's Alpha} = R_i - \{R_f + \beta * (R_m - R_f)\}$$
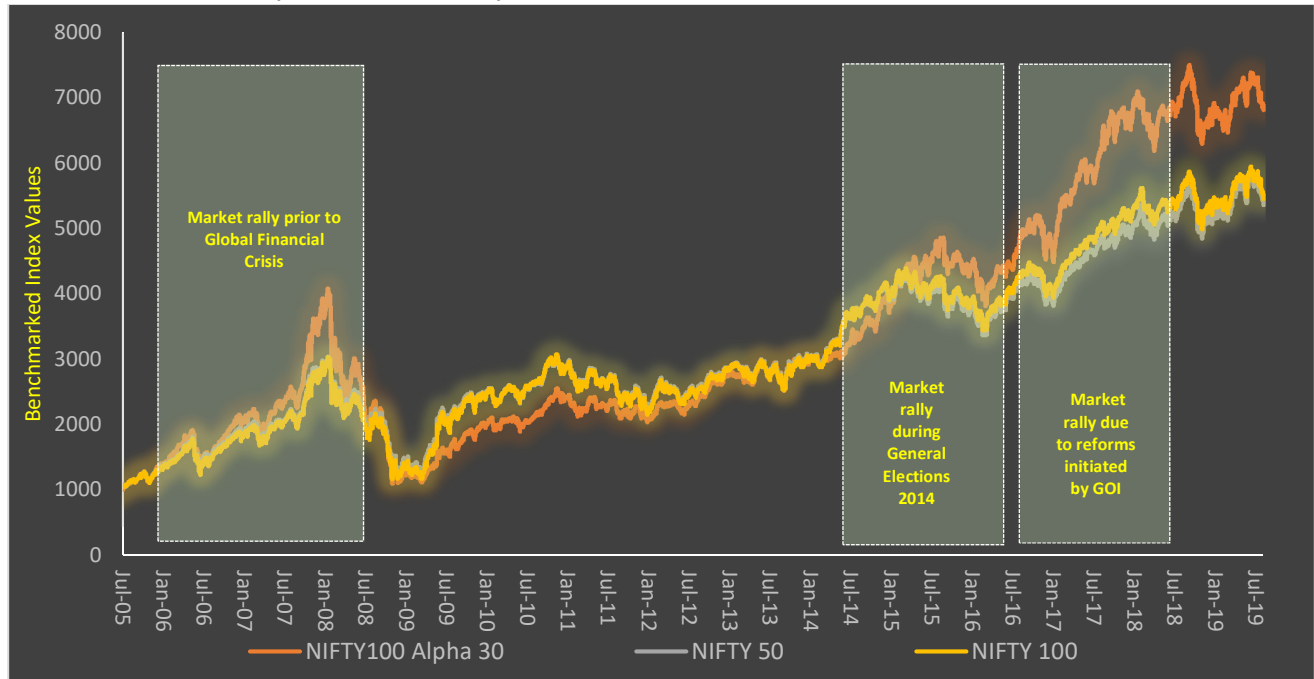
Where:
R_i: Realized return of the stock
R_m: Market return,
R_f: Risk-free rate of return
β: Beta of the stock

This smart Beta index strategy which is based on Alpha-factor has historically outperformed the NIFTY 50 and the NIFTY 100 during favorable market conditions.

Exhibit 3: Performance comparison of NIFTY100 Alpha 30 and NIFTY 50 and NIFTY 100

Data as on July 31, 2019

Exhibit 3 above shows the performance of NIFTY100 Alpha 30 vis-à-vis NIFTY 50 and its parent index NIFTY 100.

Exhibit 4: Calendar year-wise return comparison of NIFTY100 Alpha 30 PR, NIFTY 50 PR and NIFTY 100 PR

Calendar year	Calendar year returns (%)			Calendar year Volatility (%)			Return-Risk Ratio		
	NIFTY100 Alpha 30	NIFTY 50	NIFTY 100	NIFTY100 Alpha 30	NIFTY 50	NIFTY 100	NIFTY100 Alpha 30	NIFTY 50	NIFTY 100
2005	39.21%	37.19%	35.75%	16.70%	17.05%	16.78%	2.35	2.18	2.13
2006	51.83%	39.83%	38.03%	28.32%	26.06%	26.24%	1.83	1.53	1.45
2007	84.79%	54.77%	57.53%	27.46%	25.37%	25.12%	3.09	2.16	2.29
2008	-67.45%	-51.79%	-53.69%	50.82%	44.22%	44.52%	-1.33	-1.17	-1.21
2009	59.20%	75.76%	82.72%	26.92%	34.64%	34.37%	2.20	2.19	2.41
2010	21.13%	17.95%	17.91%	15.94%	16.21%	15.99%	1.33	1.11	1.12
2011	-14.81%	-24.62%	-25.81%	17.38%	20.95%	20.33%	-0.85	-1.18	-1.27
2012	32.47%	27.70%	30.60%	12.00%	15.15%	15.02%	2.70	1.83	2.04
2013	8.60%	6.76%	6.46%	16.58%	18.03%	17.71%	0.52	0.37	0.36
2014	30.50%	31.39%	33.17%	13.07%	12.65%	12.98%	2.33	2.48	2.56
2015	14.96%	-4.06%	-2.41%	17.54%	16.16%	16.14%	0.85	-0.25	-0.15
2016	4.27%	3.01%	3.60%	18.60%	15.12%	15.24%	0.23	0.20	0.24
2017	47.91%	28.65%	31.05%	14.58%	9.01%	9.30%	3.29	3.18	3.34
2018	-1.56%	3.15%	1.14%	14.83%	12.84%	12.96%	-0.11	0.25	0.09
2019*	-0.32%	2.35%	1.00%	11.61%	12.40%	12.34%	-0.03	0.19	0.08

Data as on July 31, 2019

Exhibit 4 above captures the calendar year-wise returns of NIFTY100 Alpha 30, NIFTY 50 and NIFTY 100. On overall basis, NIFTY100 Alpha 30 index has outperformed NIFTY 50 and NIFTY 100 in 10 out of 15 calendar years. More specifically, the Jensen's Alpha factor-based strategy managed to significantly outperform both broad based indices mostly during favorable market conditions. For instance, performance of NIFTY100 Alpha 30 index was considerably better during 2005-08 as the market witnessed a strong 3-year rally pre-Global Financial Crisis in 2008. Further, it can also be witnessed that during 2010 to 2013, where global economy was recovering from subdued economic condition, NIFTY 100 Alpha 30, generated alpha over both NIFTY 50 and NIFTY 100, albeit of smaller magnitude as compared to pre-Global Financial Crisis 2008.

NIFTY100 Alpha 30 index outperformed NIFTY 50 and NIFTY 100 during bull rally of 2014 driven by General Elections of 2014 generating sizeable alpha of 19.02% and 17.37% in 2015 over NIFTY 50 & NIFTY 100 respectively. Post reform initiatives introduced by Government of India in 2016-17, NIFTY100 Alpha 30 portfolio managed to deliver a stellar performance in 2017 with an alpha of 19.27% over NIFTY 50 and alpha of 16.87% over NIFTY 100. The alpha-factor based NIFTY100 Alpha 30 index is reconstituted on quarterly basis and so witnesses higher portfolio churn in comparison to traditional market capitalization weighted strategy of NIFTY 50 and NIFTY 100, which is reconstituted on semi-annual basis. Commendable returns of NIFTY100 Alpha 30 index and sizeable alpha registered over NIFTY 50 and NIFTY 100 index should ideally more than compensate for the higher churn of NIFTY100 Alpha 30 portfolio.

The Exhibits 3 and 4 also outline that historically NIFTY 100 Alpha 30 has generated alpha of more than 10% per annum over NIFTY 100 and NIFTY 50 in 5 calendar years, whereas it has underperformed broad based indices by more than 10% per annum only in 2 out of 15 calendar year, which being 2008 and 2009, where the economy across the globe was hit by global financial crisis of 2008. Thus, it can be observed that the instances of larger underperformance of NIFTY100 Alpha 30 over broad based indices such as NIFTY 50 and NIFTY 100 is historically fewer than instances of larger outperformance.

The Exhibit 4 also reveals that during 2009 – 2013 when economy was under recovery mode, the annualized volatility of NIFTY100 Alpha 30 is lower than that of the two broad based indices NIFTY 50 and NIFTY 100. The lower volatility accompanied with higher return during the period of economic recovery, resulted in NIFTY 100 Alpha 30 having return-risk ratio higher than that of NIFTY 50 and NIFTY 100 for this period.

On a rolling return basis, NIFTY100 Alpha 30 consistently outperformed NIFTY 50 and NIFTY 100 across all investment horizons

Rolling returns analysis was conducted to eliminate recency bias in performance measurement. Figures in Exhibit 5 below show number of instances of outperformance of NIFTY100 Alpha 30 index over NIFTY 50 for various investment horizons.

Exhibit 5: Rolling year returns comparison of NIFTY100 Alpha 30 PR and NIFTY 50 PR

	Rolling returns comparison between NIFTY100 Alpha 30 and NIFTY 50						
	NIFTY100 Alpha 30 outperforming NIFTY 50 (% instances)					Total Instances of Outperformance	Average Alpha across various investment period (α) [bps]
Investment period	Outperformance : (>5%)	Outperformance : (4%-5%)	Outperformance : (3% -4%)	Outperformance : (1% -3%)	Outperformance: (0% -1%)		
10 years	7%	9%	4%	58%	22%	100%	204bps
7 years	45%	5%	2%	4%	1%	57%	261bps
5 years	73%	6%	9%	8%	1%	97%	230bps
3 years	46%	10%	5%	7%	2%	70%	203bps
2 years	57%	3%	4%	5%	2%	71%	291bps
1 year	50%	6%	4%	8%	3%	71%	373bps

*Data as on July 31, 2019

NIFTY100 Alpha 30 index has managed to outperform NIFTY 50 in 10 Yr, 7 Yr, 5 Yr, 3 Yr, 2 Yr, and 1 Yr rolling periods for more than 55% of the times. For 10 and 5 years period, NIFTY100 Alpha 30 index managed to outperform NIFTY 50 ~100% and 97% of the times respectively.

Exhibit 6: Rolling year returns comparison of NIFTY100 Alpha 30 PR and NIFTY 100 PR

	Rolling returns comparison between NIFTY100 Alpha 30 and NIFTY 100						
	NIFTY100 Alpha 30 outperforming NIFTY 100 (% instances)					Total Instances of Outperformance	Average Alpha across various investment period (α) [bps]
Investment period	Outperformance : (>5%)	Outperformance : (4%-5%)	Outperformance : (3% -4%)	Outperformance : (1% -3%)	Outperformance: (0% -1%)		
10 years	4%	4%	10%	33%	44%	96%	144bps
7 years	38%	7%	4%	4%	3%	56%	209bps
5 years	69%	7%	9%	10%	2%	97%	171bps
3 years	43%	11%	8%	4%	4%	70%	153bps
2 years	56%	4%	4%	6%	3%	73%	242bps
1 year	51%	5%	4%	7%	4%	71%	321bps

*Data as on July 31, 2019

Exhibit 6 provides rolling return analysis showing outperformance of NIFTY100 Alpha 30 over NIFTY 100 across tenures. NIFTY 100 Alpha 30 has managed to outperform NIFTY 100 over 10 Yr, 7 Yr, 5 Yr, 3 Yr, 2 Yr and 1 Yr for more than 55% of the times.

NIFTY100 Alpha 30 captures the dynamics of change in market outlook towards various sectors

Exhibit 7: Sectorial composition of NIFTY 100 Alpha 30 across periods
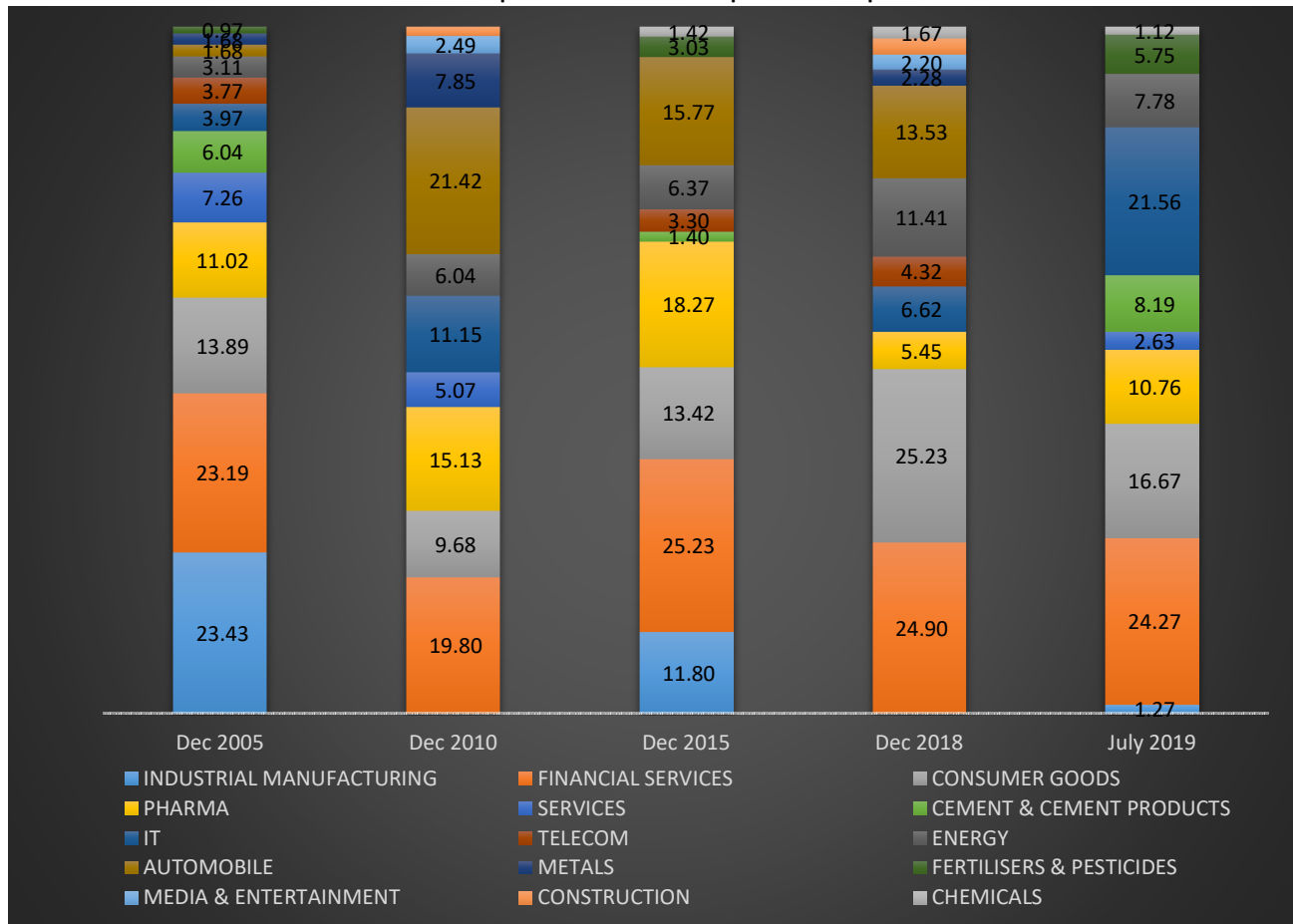
*Sector weights are capped at 25%

Exhibit 7 provides sector-wise weightages of NIFTY100 Alpha 30 across time. During past 14 years, the sector with the highest weight in the index has changed across time and reflected the sectorial preference of the market at any given point in time. For instance, during later part of 2005, Industrial manufacturing sector performed well due to which its weight in the index was at ~23% as on December 31, 2005. In 2010, automobile sector due to its previous high performance replaced industrial manufacturing sector as the highest weighted sector in the index. In 2015, Financial Services was the largest sector in the index followed by Pharma. In 2018, Consumer Goods stocks outperformed and subsequently has the highest weightage in the index followed by Financial Services. More recently, in July 2019, IT sector weight has increased from 6.62% in December 2018 to 21.56%.

Signing Off…

Smart Beta based passive investment styles are increasingly being used by investors across the globe as building blocks in their asset allocation models in their eternal quest to generate market beating returns. NIFTY100 Alpha 30 index, is one such smart beta strategy, which is based on 'Holding onto the recent performers'. The stock selection method and factor tilt based index weighing seeks to capture the performance of companies with high alpha score and is expected to strongly appeal to the investment community looking to align their investment with the alpha based strategy. The NIFTY100 Alpha 30 index has outperformed NIFTY 50 index in 10 out of 15 calendar years and registered commendable returns on rolling period basis across all investment horizons. NIFTY100 Alpha 30 captures the dynamics of change in market outlook towards various sectors. NIFY100 Alpha 30 index is expected to serve as benchmark index for funds themed on alpha strategy. It is also suitable for launch of passive funds in the form of Exchange Traded Funds (ETFs), index funds and structured products.

About NSE Indices Limited:

NSE Indices Limited (formerly known as India Index Services & Products Ltd. - IISL), a subsidiary of NSE, provides a variety of indices and index related services for the capital markets. The company focuses on the index as a core product. The company owns and manages a portfolio of indices under the NIFTY brand of NSE, including the flagship index, the NIFTY 50. NIFTY equity indices comprises of broad-based benchmark indices, sectoral indices, strategy indices, thematic indices and customised indices. NSE Indices Limited also maintains fixed income indices based on Government of India securities, corporate bonds, money market instruments and hybrid indices. Many investment products based on NIFTY indices have been developed within India and abroad. These include index based derivatives traded on NSE, NSE IFSC, Singapore Exchange Ltd. (SGX) and Taiwan Futures Exchange (TAIFEX) and a number of index funds and exchange traded funds. The flagship 'NIFTY 50' index is widely tracked and traded as the benchmark for Indian Capital Markets.

For more information, please visit: www.niftyindices.com

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