

Item No. 11: Diversification of investments in Exchange Traded Fund (ETF) under category (iv) i.e. investment in Equity and related Investments of Investment Pattern 2015.

The Government of India vide notification no. S.O. 1071 (E) dated 23<sup>rd</sup> April, 2015 had notified Investment Pattern for investments of Central Board, EPF. Category (iv) of said Pattern provides minimum 5% and upto 15% investment in Equity and Related Investment. Sub-Category (c) of said Category (iv) provides investment in “*Exchange Traded Funds (ETFs) / Index Funds regulated by the Securities and Exchange Board of India that replicate the portfolio of either BSE SENSEX Index or NSE Nifty 50 Index*””. Accordingly, the investments are being made in Exchange Traded funds (ETFs) based on Nifty 50 and SENSEX indices as prescribed in the Pattern of Investment.

2. The Expert Group constituted by FIAC to examine alternate strategies for investments in ETF in its report suggested alternate ETFs investment other than Nifty 50 and SENSEX in order to optimise return with minimum risk. The Expert group among other things also suggested that indices such as Nifty Next 50, S&P BSE Midcap Select or other indices can be considered provided the Index constituents are within top 100 stocks by market capitalization at the time of final selection of indices.

3. The suggestions of India Index Services and Products Ltd (NSE) and Asia Index Private Limited (BSE) were again sought recently on the possible indices within the top 100 companies by market capitalisation. In response, S&P, BSE vide email dated 12.07.2017 (**Annexure-11A**) and NSE vide mail dated 13.07.2017 (**Annexure-11B**) furnished suggestions on alternate strategies for investments in ETFs. Inputs received from BSE & NSE were forwarded to the Consultant for comments.

4. The Consultant of EPFO, M/s. CRISIL Ltd provided comments on the inputs received from BSE & NSE on alternative strategies for EPFO's investment in ETF. The Consultant has furnished its comments (**Annexure-11C**), which includes a comparative analysis of the following indices:

- I. S&P BSE Midcap Select Index
- II. S&P BSE SENSEX Next 50
- III. S&P BSE SENSEX
- IV. Nifty Next 50
- V. Nifty 50.

5. The Consultant has highlighted following key points/messages:

- I. Diversification: Addition of stocks beyond Nifty 50 and S&P BSE SENSEX would improve overall portfolio diversification in terms of company as well as sector exposure.
- II. Returns: Returns of S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices are higher in comparison to that of S&P BSE SENSEX and Nifty 50 over the trailing periods of 1 year, 3 years and 5 years.
- III. Market risk: S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices have higher volatility in comparison to that of S&P BSE SENSEX and Nifty 50 over the trailing periods of 1 year, 3 year & 5 Years.
- IV. Returns adjusted for risk: S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices have delivered higher return per unit of risk (volatility) in compare to that of S&P BSE SENSEX and Nifty 50 on the basis of rolling returns for ten-year holding periods.
- V. Maximum Drawdown and impact cost: S&P BSE MidCap Select, S&P SENSEX Next 50 and Nifty Next 50 indices have relatively higher drawdown and impact cost in comparison to S&P BSE SENSEX and Nifty 50.

VI. Concentration risk: S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 are more diversified compared to Nifty 50 and S&P BSE SENSEX.

6. After examine the comments/comparative analysis furnished by the Consultant, it can be concluded that Nifty Next 50 and S&P BSE SENSEX Next 50 can be considered for investment by EPFO as a means for diversification. S&P BSE MidCap Select index may not be considered as it has maximum downside risk in the worst return period moreover it also has higher portfolio concentration in comparison to next 50 indices.

7. As mentioned in Para 1 above, category (iv) (c) of Pattern of Investment mentions that Exchange Traded Funds /Index Funds regulated by the SEBI that replicates the portfolio of either BSE SENSEX or NSE Nifty 50 Index. Accordingly these new indices will have to be included in the Pattern of Investment notified by the Central Government after its approval by the Central Board.

8. The item was placed before the FIAC and the members after deliberation recommended it for consideration of the Central Board.

Proposal: The item is placed before the Central Board for its approval.



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**Alternate strategies for investment in Exchange Traded Funds (ETFs)**

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**Koel Ghosh** <koeldg@gmail.com>

Wed, Jul 12, 2017 at 2:23 PM

To: "Ajay Kumar, RPFC" &lt;ajay.kumar@epfindia.gov.in&gt;

Cc: "koel.ghosh@spdji.com" &lt;koel.ghosh@spdji.com&gt;, koel@nic.in, FA CAO &lt;fa.cao@epfindia.gov.in&gt;, "K. L. GOYAL" &lt;acc.fa.imc@epfindia.gov.in&gt;, annop katiyar &lt;anoop.kati@gmail.com&gt;, Mahavir Kaswa &lt;mahavir.kaswa@spglobal.com&gt;, Alka Banerjee &lt;alka.banerjee@spglobal.com&gt;, Loretta Colaco &lt;loretta.colaco@spglobal.com&gt;

Hi Ajay

Thank you for your kind consideration and our response to offer alternate strategies. We too have developed indices to broaden our suite of S&P BSE Indices.

Hence I am enclosing the options for our review and response.

We would like to come over to detail and explain the note and hence do suggest if you are free next week on Monday or Tuesday. I will reach out for a time as we are in Delhi with Alka and already booked for a few meetings.

Hope to meet you next week

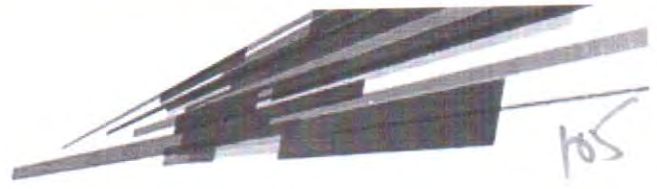
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## Alternative strategies by Asia Index Pvt Ltd

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### Introduction –

In response to EPFO's request to offer options for indices that measure the performance of companies beyond constituents of S&P BSE SENSEX but within top 100 as defined by index providers, we propose a choice among following indices –

- A. **S&P BSE SENSEX Next 50 and**
- B. **S&P BSE MidCap Select**

- The S&P BSE SENSEX 50 and S&P BSE SENSEX Next 50 Index have expanded the S&P BSE SENSEX index series.
- Both the indices aim to measure the performance of top 50 companies and the next set of 50 companies, respectively out of S&P BSE 100 index. Like other S&P BSE Indices, both adopt rules-based, transparent, and objective index methodologies
- An alternative option, S&P BSE MidCap Select is designed to measure the performance of top 30 large and liquid midcap companies. The index follows free float adjusted market capitalization weighing methodology consistently since inception.

The lowest ranks of constituents as on end of June 30, 2017 were

- 124 for S&P BSE SENSEX Next 50 and
- 107 for S&P BSE MidCap Select
- 140 for Nifty Next 50

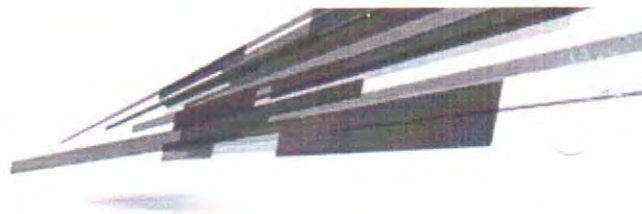
The data is based on the 6 month average free float market capitalization as of April 30, 2017. The universe used for ranking stocks is member of S&P BSE LargeMidCap index.

### Characteristics –

- Both indices are designed to be investable as each constituent has to pass through index specific liquidity filter to be eligible to be part of index.
- Constituents are selected based on the free float market capitalization a standard followed globally by major index providers.
  - *Globally free float market capitalization methodology is increasing adopted as standard practice as it generally offers better portfolio liquidity*
- Constituents of both indices are weighted by its free float market capitalization consistently since inception
- Both indices follow a fixed review calendar that is publically announced and are reviewed semi-annually each year, also clearly defined in the index methodology document.

Index values are calculated in Indian Rupees and US Dollar





## Option – A- THE S&P BSE SENSEX Next 50

The S&P BSE SENSEX Next 50 is a transparent, rules-based index that is designed to measure the performance of the next 50 largest and liquid stocks after the constituents of the S&P BSE SENSEX 50 in the S&P BSE 100.

### Index Methodology Snapshot <sup>1</sup>–

#### Eligible Universe –

At each semi-annual rebalance constituents are selected from top 100 (S&P BSE 100) constituents.

#### Liquidity –

- At each semi-annual rebalance new company that is being included should have minimum annualized value traded of INR 1000 crores (for existing constituents it is relaxed to INR 800 crores)
- Company should have no more than 5 non-trading days in the past size month as of rebalance reference date

#### Stock Selection –

- Top 100 companies are identified based on the free float market capitalization subject to 20% buffer as mentioned in the index methodology
- All Companies excluding constituents of S&P BSE SENSEX 50 index form part of the S&P BSE SENSEX Next 50 index

#### Constituent weighting –

Each constituent is weighted based on the free float market capitalization

#### Derivative linkage –

The maximum weight of stock not linked to derivative trading should not be more than 20% and individual weight of stock not linked to derivative should not be more than 5%

#### Rebalancing –

Index is reviewed semi-annually i.e. in June and December each year

## **Option – B S&P BSE MidCap Select Index**

The S&P BSE MidCap Select is a rules-based index designed to measure the performance of the 30 largest, most liquid companies within the S&P BSE MidCap.

### **Index Methodology Snapshot <sup>2</sup>–**

#### **Eligible Universe –**

At each semi-annual rebalancing, constituent are selected from the member of S&P BSE MidCap.

#### **Market Capitalization –**

The eligible stock should be have an average daily float-adjusted market capitalization greater than INR 2000 crores (for existing constituents it is relaxed to INR 1600 crores)

#### **Liquidity –**

- At each semi-annual rebalance new company that is being included should have minimum annualized value traded of INR 1000 crores (for existing constituents it is relaxed to INR 800 crores)
- Turnover ratio should be equal to or greater than 20% (for existing constituents it is relaxed to 16%)
- Company should have no more than 5 non-trading days in the past size month as of rebalance reference date

#### **Stock Selection –**

- Top 30 stocks are selected subject to maximum number of stocks per BSE Sector to 10.
- Buffer of 10 stocks on either side is applied in order to reduce excess index churn.

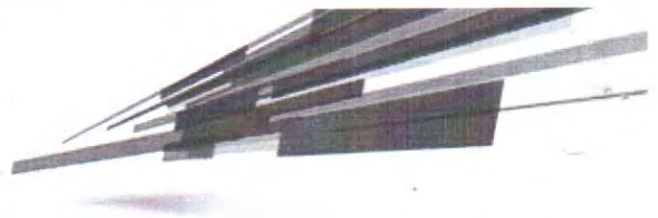
#### **Constituent weighting –**

Each constituent is weighted based on the free float market capitalization

#### **Rebalancing –**

Index is reviewed semi-annually i.e. in March and September each year



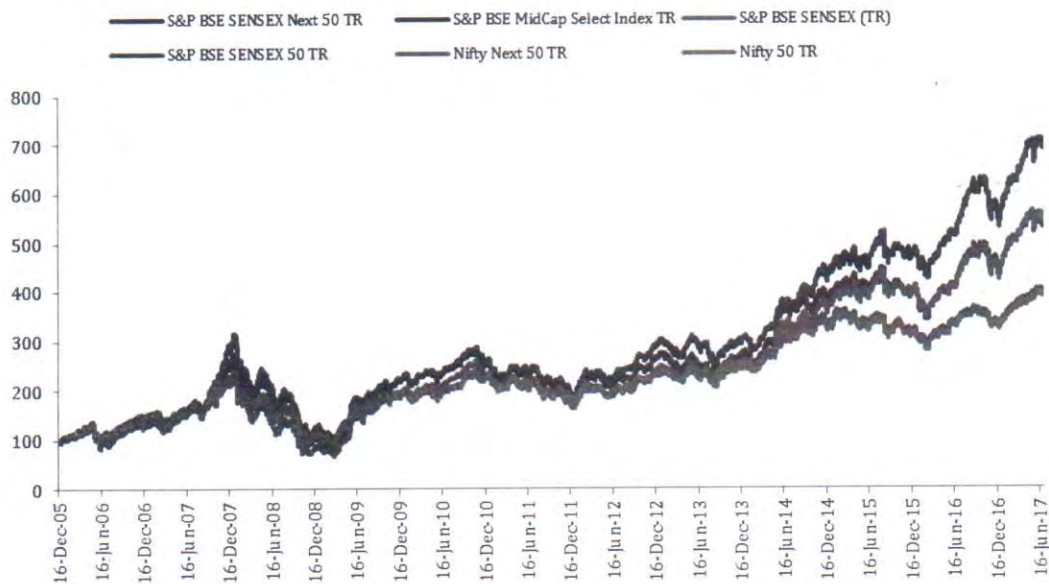


## Index Performance

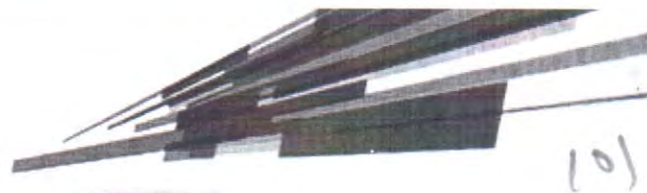
The exhibits 1, 2, and 3 show index performance charts and risk/return characteristics of the indices for different periods. Since December 16, 2005, S&P BSE SENSEX Next 50 and S&P BSE MidCap Select have outperformed S&P BSE SENSEX. Over last 10 years, the S&P BSE SENSEX Next 50 and S&P BSE MidCap Select index have generated annualized excess total returns of 3.5% and 5.9% over S&P BSE SENSEX.

The both indices noted higher returns per unit of risk (annualized standard deviation of daily total returns) amid relatively higher volatility over S&P BSE SENSEX.

### Exhibit 1 - Historical Index Performance Chart



Source: Asia Index Pvt. Ltd and [www.nseindia.com](http://www.nseindia.com); Total Returns data in INR as of June 30, 2017 Data from Dec 16, 2005 up to June 30, 2017. Index performance is based on total return in Indian Rupees. All data prior to launch date are back-tested. Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.



### Exhibit 2 - Risk/return profile

Stats	Data Label	S&P BSE SENSEX Next 50	S&P BSE MidCap Select	S&P BSE SENSEX	S&P BSE SENSEX 50	Nifty Next 50	Nifty 50
CAGR	1 year	25.8%	30.3%	16.0%	17.4%	30.6%	16.3%
	3 year	13.1%	22.8%	8.3%	9.9%	18.5%	9.1%
	5 year	19.3%	24.3%	13.8%	14.5%	22.7%	13.9%
	7 year	12.0%	16.1%	9.9%	10.4%	14.3%	10.0%
	10 year	12.8%	15.2%	9.3%	9.8%	13.0%	9.5%
Annualized Volatility	1 year	16.4%	15.7%	10.6%	10.8%	15.6%	11.0%
	3 year	18.0%	17.1%	14.0%	13.9%	17.2%	14.2%
	5 year	18.2%	17.0%	14.4%	14.4%	16.9%	14.7%
	7 year	18.3%	17.2%	15.7%	15.6%	17.5%	16.0%
	10 year	23.9%	25.3%	23.4%	23.3%	25.5%	23.4%
Risk Adjusted Returns	1 year	1.58	1.93	1.50	1.61	1.96	1.48
	3 year	0.73	1.34	0.59	0.71	1.07	0.64
	5 year	1.06	1.43	0.96	1.01	1.34	0.94
	7 year	0.66	0.94	0.63	0.67	0.82	0.63
	10 year	0.54	0.60	0.40	0.42	0.51	0.41

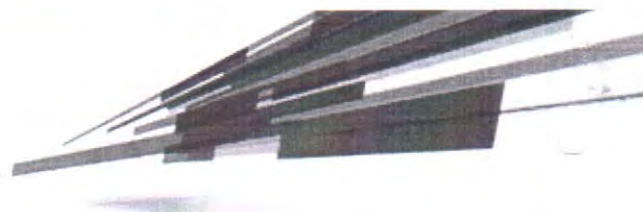
Source: Asia Index Pvt. Ltd and www.nseindia.com; Total Returns data in INR as of June 30, 2017 Data from Dec 16, 2005 up to June 30, 2017. Index performance is based on total return in Indian Rupees. All data prior to launch date are back-tested. Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

### Exhibit 3 – Calendar Year total returns

Stats	S&P BSE SENSEX Next 50	S&P BSE MidCap Select	S&P BSE SENSEX	S&P BSE SENSEX 50	Nifty Next 50	Nifty 50
CY 2016	9.6%	14.7%	3.5%	4.6%	8.4%	4.4%
CY 2015	3.7%	9.4%	-3.7%	-2.5%	8.1%	-3.0%
CY 2014	41.0%	43.8%	31.9%	33.4%	46.4%	32.9%
CY 2013	4.0%	4.5%	10.7%	8.4%	6.0%	8.1%
CY 2012	47.3%	60.0%	28.0%	29.9%	49.8%	29.4%
CY 2011	-29.5%	-29.6%	-23.6%	-23.7%	-31.1%	-23.8%
CY 2010	14.8%	16.7%	19.1%	19.5%	18.9%	19.2%
CY 2009	81.5%	101.7%	83.3%	87.3%	130.5%	77.6%
CY 2008	-53.8%	-62.9%	-51.8%	-53.9%	-63.1%	-51.3%
CY 2007	98.7%	101.3%	48.8%	54.1%	77.4%	56.8%
CY 2006	34.1%	46.3%	48.8%	43.7%	30.0%	41.9%

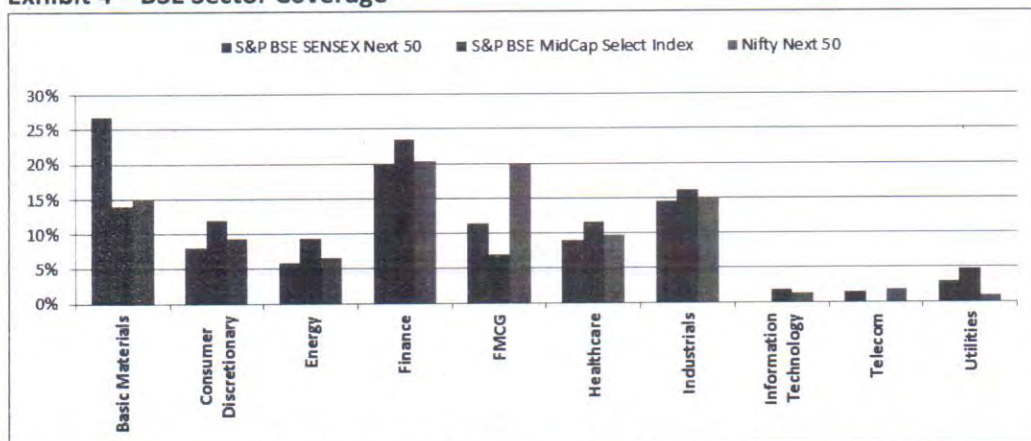
Source: Asia Index Pvt. Ltd and www.nseindia.com; Total Returns data in INR as of June 30, 2017 Data from Dec 16, 2005 up to June 30, 2017. Index performance is based on total return in Indian Rupees. All data prior to launch date are back-tested. Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.





From exhibit 4, the BSE Sector weights of S&P BSE SENSEX Next 50 and S&P BSE MidCap Select are diversified with presence in 9 out of the 10 BSE Sectors. In case of S&P BSE SENSEX Next 50, the Basic Materials noted highest weight of 25%; whereas Finance Sector has the highest weight of 23.6% in S&P BSE MidCap Select.

**Exhibit 4 – BSE Sector Coverage**



Source: Asia Index Pvt. Ltd and www.nseindia.com; BSE Sector data As of June 30, 2017 Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

**Exhibit 5 – Top 10 Constituents**

Company	Index Weight	BSE Sector	BSE INDUSTRY
<b>S&amp;P BSE SENSEX Next 50 Index</b>			
Vedanta Ltd	6.50%	Basic Materials	Metals & Mining
UPL Ltd	4.20%	Basic Materials	Chemicals & Petrochemicals
Hindalco Industries Ltd	3.72%	Basic Materials	Metals & Mining
Hindustan Petroleum Corp Ltd	3.56%	Energy	Oil & Gas
Bajaj Finserv Ltd	3.50%	Finance	Other Financial Services
Piramal Enterprises Ltd	3.26%	Healthcare	Pharmaceuticals & Biotechnology
LIC Housing Finance Ltd	3.16%	Finance	Other Financial Services
Motherhood Sumi Systems Ltd	3.08%	Consumer Discretionary	Automobiles & Auto Components
Britannia Industries Ltd.	3.05%	FMCG	Food, Beverages & Tobacco
JSW Steel Ltd	2.97%	Basic Materials	Metals & Mining
<b>S&amp;P BSE MidCap Select</b>			
Indiabulls Housing Finance Limited	7.4%	Finance	Other Financial Services
UPL Ltd	6.8%	Basic Materials	Chemicals & Petrochemicals
Hindustan Petroleum Corp Ltd	5.7%	Energy	Oil & Gas
Bajaj Finserv Ltd	5.6%	Finance	Other Financial Services
Piramal Enterprises Ltd	5.2%	Healthcare	Pharmaceuticals & Biotechnology
LIC Housing Finance Ltd	5.1%	Finance	Other Financial Services
JSW Steel Ltd	4.8%	Basic Materials	Metals & Mining
MRF Ltd	3.8%	Consumer Discretionary	Automobiles & Auto Components
Marico Ltd	3.7%	FMCG	Household & Personal Products
Petronet LNG Ltd	3.7%	Energy	Oil & Gas

Source: Asia Index Pvt. Ltd. and www.nseindia.com; Top 10 constituent base on index weight as of June 30, 2017 Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.





#### Exhibit 6 (a) – Index Characteristics

	S&P BSE SENSEX Next 50	S&P BSE MidCap Select Index	Nifty Next 50
<b>Full/Total Market Capitalization in INR Crore</b>			
Total	16,91,864	8,90,818	19,39,137
Average	33,837	29,694	38,783
Max	92,577	65,498	111,063
Min	9,502	13,080	17,172
Median	30,709	27,316	33,484
% Coverage of S&P BSE AllCap	14.4%	7.6%	16.5%
<b>Free Float Market Capitalization in INR Crore</b>			
Total	7,12,061	4,42,427	6,63,029
Mean	14,241	14,748	13,261
Largest	46,288	32,877	30,737
Smallest	5,363	6,801	5,202
Median	12,375	12,878	12,062
% Coverage of S&P BSE AllCap	12.8%	8.0%	12.0%
<b>Weight</b>			
Largest Constituent	6.5%	7.4%	4.6%
Top 10 Constituents	37.0%	51.8%	37.4%

Source: Asia Index Pvt. Ltd and [www.nseindia.com](http://www.nseindia.com); Data as of June 30, 2017 Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

As can be noted in Exhibit 6 (b), S&P BSE SENSEX Next 50 and S&P BSE Midcap Select noted lower spread in ranks as compared with Nifty Next 50 Index.

#### Exhibit 6 (b) – Index Characteristics (6 months Average Free Float Mcap Rank)

6 month Avg Free Float Mcap	S&P BSE SENSEX Next 50	S&P BSE MidCap Select Index	Nifty Next 50
Lowest Rank	124	107	140
Highest Rank	42	43	20
Spread = Lowest – Highest	82	64	120

Source: Asia Index Pvt. Ltd and [www.nseindia.com](http://www.nseindia.com); Constituent Data as of June 30, 2017, 6 month average free float market capitalization from November 1, 2016 to April 30, 2017; Constituents of S&P BSE LargeMidCap Index used as universe for ranking. Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

#### Exhibit 7 – Fundamental Data

Index Name	Dividend Yield in %	Trailing P/E	Price to Book, LTM
S&P BSE SENSEX Next 50	1.50	22.05	2.21
S&P BSE MidCap Select	1.29	20.06	3.37
Nifty Next 50	1.27	27.48	3.74

Source: Asia Index Pvt. Ltd and [www.nseindia.com](http://www.nseindia.com); Data as of June 30, 2017 Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.



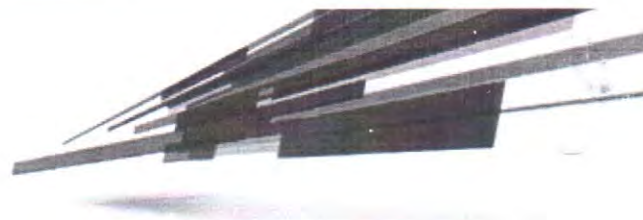


Exhibit 7 (a) and 7 (b) Since January 2006, due to different index methodologies S&P BSE SENSEX Next 50, S&P BSE Midcap Select and Nifty Next 50 had outperformed each other during different period of time.

*The monthly excess total return is the difference between monthly total returns of the indices being compared.*

#### Exhibit 7 (a) – Monthly Excess total returns over Nifty Next 50

S&P BSE SENSEX Next 50 excess monthly total returns over Nifty Next 50												
Month/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	~2017
1	-0.3%	0.0%	-4.0%	-1.3%	-0.2%	0.1%	1.2%	0.5%	-1.1%	-0.4%	-1.2%	0.1%
2	-0.3%	-0.9%	8.8%	1.5%	0.5%	-0.4%	-1.0%	-2.7%	-0.5%	0.2%	-0.1%	-0.6%
3	0.4%	-2.1%	3.9%	-2.6%	-0.7%	-0.8%	-0.4%	-0.1%	0.6%	0.5%	2.4%	-0.3%
4	0.2%	-0.7%	0.3%	-7.4%	0.0%	0.9%	0.2%	0.4%	0.0%	0.5%	0.7%	0.0%
5	1.5%	2.0%	7.4%	-7.2%	-1.3%	-0.3%	-0.3%	-1.3%	5.5%	-1.2%	0.5%	-1.1%
6	2.2%	-1.7%	4.7%	-5.6%	0.3%	0.8%	0.9%	-0.3%	0.4%	-1.1%	-0.4%	-1.4%
7	-3.5%	1.4%	-4.6%	0.1%	-2.1%	1.4%	0.2%	-1.2%	-1.5%	-0.2%	-0.5%	NA
8	0.6%	-1.1%	-0.4%	1.6%	1.5%	0.1%	-0.4%	3.3%	-0.9%	-0.2%	0.9%	NA
9	-0.2%	1.6%	2.9%	-2.5%	-1.1%	-0.7%	0.1%	-1.0%	-1.9%	-0.6%	-0.3%	NA
10	0.9%	8.8%	1.0%	-4.3%	-1.7%	0.3%	-1.2%	0.3%	-0.7%	-0.4%	-0.7%	NA
11	1.6%	1.1%	6.1%	-0.8%	0.0%	0.6%	-0.2%	-0.7%	-0.9%	-0.7%	0.7%	NA
12	-0.4%	4.7%	-7.7%	1.2%	1.3%	0.1%	-0.7%	1.0%	-1.7%	-0.5%	-0.6%	NA

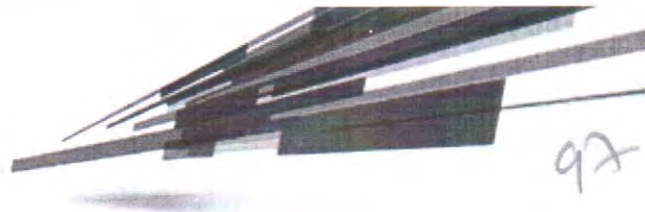
Source: Asia Index Pvt. Ltd and [www.nseindia.com](http://www.nseindia.com); Data As of June 30, 2017 Data from Dec 16, 2005 up to June 30, 2017. Index performance is based on total return in Indian Rupees. All data prior to launch date are back-tested. Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

#### Exhibit 7 (b) – Monthly Excess total returns over Nifty Next 50

S&P BSE MidCap Select excess monthly total returns over Nifty Next 50												
Month/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	~2017
1	2.4%	-2.1%	2.6%	-7.2%	-0.5%	-0.4%	0.5%	-0.1%	-0.8%	0.5%	3.2%	-1.2%
2	-0.1%	-1.7%	1.3%	-3.0%	0.7%	0.4%	-1.5%	-1.5%	0.2%	-1.8%	-0.5%	-0.3%
3	1.6%	-0.2%	0.7%	1.0%	0.3%	-0.5%	1.7%	1.5%	-0.7%	1.2%	0.8%	1.0%
4	-2.6%	-4.2%	2.7%	-3.8%	-0.3%	0.9%	1.6%	0.9%	0.7%	0.2%	1.6%	1.1%
5	0.9%	4.3%	3.2%	2.1%	-0.9%	0.9%	1.2%	0.8%	-3.8%	-0.6%	2.7%	1.3%
6	4.6%	-5.0%	1.3%	-2.9%	0.1%	-1.0%	0.6%	-0.2%	-1.6%	1.6%	-1.7%	-1.6%
7	0.3%	3.0%	-3.7%	0.0%	-1.5%	0.3%	2.3%	-0.8%	0.4%	1.1%	-0.3%	NA
8	0.1%	-0.8%	-0.4%	-0.1%	0.9%	1.6%	2.5%	-1.4%	1.6%	-1.3%	2.6%	NA
9	0.5%	4.2%	-3.7%	0.9%	0.1%	-1.0%	-2.0%	-0.7%	1.1%	2.1%	-0.3%	NA
10	-0.2%	6.9%	-2.1%	-1.4%	-2.2%	0.4%	-0.5%	1.8%	1.3%	-0.6%	-0.8%	NA
11	3.7%	4.4%	2.9%	0.9%	0.8%	0.6%	0.3%	-0.9%	-0.4%	0.3%	-1.2%	NA
12	0.5%	6.2%	-5.0%	1.6%	0.4%	-0.2%	-0.5%	-0.4%	-0.1%	-1.4%	-0.3%	NA

Source: Asia Index Pvt. Ltd and [www.nseindia.com](http://www.nseindia.com); Data As of June 30, 2017 Data from Dec 16, 2005 up to June 30, 2017. Index performance is based on total return in Indian Rupees. All data prior to launch date are back-tested. Charts are provided for illustrative purposes and may reflect hypothetical historical performance. It is not possible to invest directly in an index. Past performance is no guarantee of future results. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.



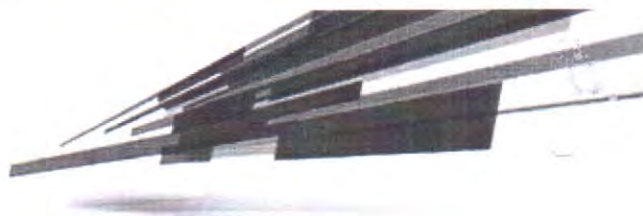


### **Conclusion –**

S&P BSE SENSEX Next 50 and S&P BSE MidCap Select follow transparent rule based index methodology. The constituent of index are weighted based on the free float adjusted market capitalization weighted methodology since inception.

S&P BSE SENSEX Next 50 and S&P BSE MidCap Select noted higher annualized returns amid higher volatility over S&P BSE SENSEX. While each index have diversified basket of stocks by BSE Sector, the S&P BSE SENSEX combined with S&P BSE SENSEX Next 50 and / or S&P BSE MidCap Select has noted better sectoral diversification that is broadly in line with India's capital market sector weights.





## Performance disclosure

The S&P BSE SENSEX, S&P BSE SENSEX Next 50, and S&P BSE MidCap Select indices were launched as of January 1, 1986 and February 27, 2017, June 15, 2015. The launch date of Nifty Next 50 couldn't be found. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. Complete index methodology details are available at [www.spdji.com](http://www.spdji.com).

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Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

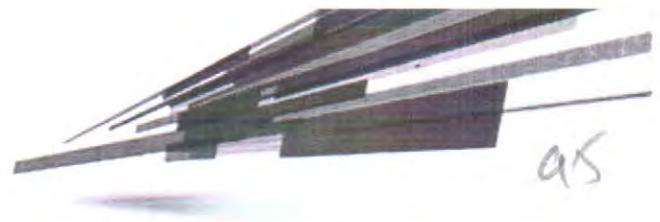
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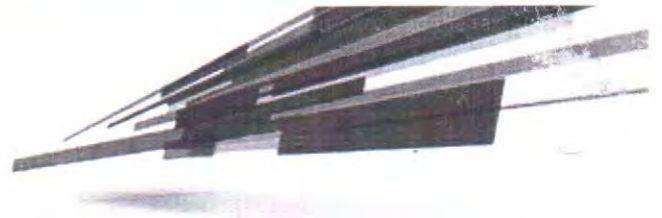
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of both parent companies, each established more than 115 years ago, aims to provide a full array of indices enabling global and domestic investors to participate in South Asia's vibrant economies. The Company is best known for calculating, publishing, and maintaining a diverse family of Asian indices under the umbrella brand, S&P BSE Indices.

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## Alternate strategies for investment in Exchange Traded Funds (ETFs)

Mukesh Agarwal <mukेशa@nse.co.in>

Thu, Jul 13, 2017 at 4:04 PM

To: "ajay.kumar@epfindia.gov.in" <ajay.kumar@epfindia.gov.in>

Cc: "fa.cao@epfindia.gov.in" <fa.cao@epfindia.gov.in>, "acc.fa.imc@epfindia.gov.in" <acc.fa.imc@epfindia.gov.in>, annop katiyar <anoop.kati@gmail.com>, "Aman Singhania (NEWPRD)" <asinghania@nse.co.in>, "Rohit Kumar (DIISL)" <rohitk@nse.co.in>

Dear Mr. Ajay,

Thank you for your mail below.

With reference to your mail below, we believe that Investment in ETFs based on NIFTY Next 50 index aligns well with EPFO's investment philosophy of investing in large capitalization stocks (top 100 stocks based on market capitalization as defined by index provider). It also provides a good opportunity to diversify investment exposure beyond the existing NIFTY 50 stocks. The key features of Nifty50 are given below and detailed write-up is enclosed for your reference.

- NIFTY Next 50 represents companies which are presently constituents of NIFTY 100 large-capitalization stocks and may be potential candidates for inclusion in NIFTY 50, subject to index criteria.
- NIFTY Next 50 has witnessed a well-diversified portfolio at both stock and sector level.
- NIFTY Next 50 index has historically outperformed NIFTY 50 index since its inception with a higher return to risk ratio for various longer periods.
- These attributes of the index coupled with good historical performance both on a return and risk basis make NIFTY Next 50 an appealing index investment strategy.

As on date, there are two ETFs tracking Nifty Next50 as given below:

ETF	AUM as on 31 May 2017 (Rs. Cr.)
Reliance ETF Junior BeES	127.2
SBI ETF NIFTY Next 50	18.1

Should you require any additional information, please feel free to contact us.

Regards,

Mukesh Agarwal

+91 99202 33020

[Quoted text hidden]

## **NIFTY Next 50**

**July 2017**



## About the NIFTY Next 50 index

- NIFTY Next 50 index represents the performance of 'next' 50 stocks in the pool of large capitalization stocks (NIFTY 100 stocks) which come after the top 50 in order of free float market capitalization, subject to index criteria.
- The NIFTY Next 50 thus represents companies which are presently below the NIFTY 50 index constituents and may be potential candidates for inclusion in NIFTY 50 in future, subject to index criteria.
- The index has a base date of November 03, 1996 and base value of 1000
- The selection of securities and weights are based on free float market capitalization
- The NIFTY Next 50 Index represents about 15.72% of the full float market capitalization and 11.56% of the free float market capitalization of the stocks listed on NSE as on June 30, 2017
- As on June 2017, total six months traded value of all index constituents is approximately 14.45% of traded value of all stocks on NSE

112

## NIFTY Next 50 index performed better than NIFTY 50 on risk-return basis in the long-run



Exhibit 1 : Performance of Nifty Next 50 and Nifty 50 till June 30, 2017

Period	NIFTY Next 50					NIFTY 50				
	Annualized Returns			Annualized Volatility	Return to Risk Ratio	Annualized Returns			Annualized Volatility	Return to Risk Ratio
	Price Return	Total Return	Dividend Yield			Price Return	Total Return	Dividend Yield		
Since Nov 1996	17.10%	NA*	NA	27.90%	0.61	12.20%	NA*	NA	24.50%	0.50
10 years	11.70%	13.00%	1.30%	25.60%	0.46	8.20%	9.50%	1.30%	23.50%	0.35
7 years	12.80%	14.30%	1.50%	17.50%	0.73	8.70%	10.00%	1.30%	16.00%	0.54
5 years	21.10%	22.70%	1.60%	17.00%	1.24	12.50%	13.90%	1.40%	14.80%	0.85
3 years	16.78%	18.50%	1.72%	17.20%	0.97	7.75%	9.10%	1.35%	14.20%	0.55
1 year	27.90%	30.60%	2.70%	15.50%	1.8	14.90%	16.30%	1.40%	11.00%	1.35

\* Total Return Indices are available from Nov 2002 onwards

Exhibit 2: Performance of Nifty Next 50 and Nifty 50 on risk-return basis as on June 30, 2017

- Since its inception in November 1996, the NIFTY Next 50 index has given a price-return of 17.1% per annum as compared to 12.2% per annum of NIFTY 50 for same period.
- During the previous 10 years, NIFTY Next 50 delivered a total-return (including dividend yield) of 13% per annum as compared to 9.5% per annum of NIFTY 50.
- The dividend yield of NIFTY Next 50 ranges from 1.30% to 2.70% per annum for various periods as compared to NIFTY 50 whose dividend yield ranges from 1.30% to 1.40% per annum. Higher dividend yield for most of the periods, helps NIFTY Next 50 give higher total return as compared to NIFTY 50.
- NIFTY Next 50 has a slightly higher 'return to risk' ratio of 0.61 compared to 0.50 of NIFTY 50 as the standard deviation of NIFTY Next 50 index has been only marginally higher at 27.9% as compared to 24.50% of NIFTY 50.

Calendar year wise returns			
Period	NIFTY Next 50	NIFTY 50	Excess Return
1997	14.90%	20.10%	-5.20%
1998	27.80%	-18.10%	45.90%
1999	162.30%	67.40%	94.90%
2000	-39.10%	-14.70%	-24.40%
2001	-46.50%	-16.20%	-30.30%
2002	8.80%	3.30%	5.50%
2003	141.00%	71.90%	69.10%
2004	30.80%	10.70%	20.10%
2005	24.40%	36.30%	-11.90%
2006	28.20%	39.80%	-11.60%
2007	75.70%	54.80%	20.90%
2008	-63.50%	-51.80%	-11.70%
2009	127.90%	75.80%	52.10%
2010	17.80%	17.90%	-0.10%
2011	-31.90%	-24.60%	-7.30%
2012	48.10%	27.70%	20.40%
2013	4.80%	6.80%	-2.00%
2014	44.40%	31.40%	13.00%
2015	7.00%	-4.10%	11.10%
2016	7.10%	3.00%	4.10%

Exhibit 3: Calendar year returns of NIFTY Next 50 and NIFTY 50

- NIFTY Next 50 outperformed NIFTY 50 in 11 out of 20 calendar years.
- Calendar years 1998, 1999, 2003, 2004, 2007, 2009 and 2012 specifically witnessed great outperformance by NIFTY Next 50



## NIFTY Next 50 portfolio has higher sectoral diversification compared to NIFTY 50

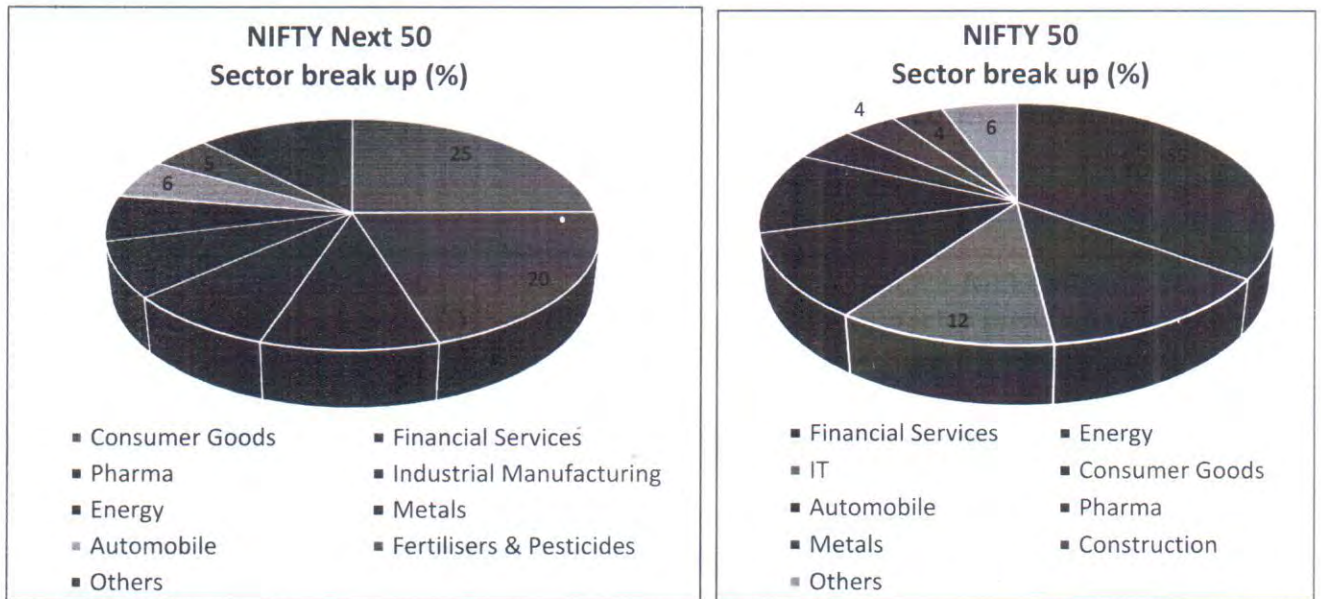


Exhibit 4: Portfolio comparison of NIFTY Next 50 and NIFTY 50 - As on June 2017

- Sector exposure of both the indices can be seen in the Exhibit 4 above. NIFTY Next 50 has a well-diversified portfolio across sectors
- Top 5 sectors in NIFTY Next 50 accounts for 71% exposure as compared to 82% in case of NIFTY 50.
- The sector with highest weight in NIFTY Next 50 is 'Consumer Goods' with around 25% weight as against 35% weight given to 'Financial Services' in NIFTY 50.
- In NIFTY Next 50, there are as many as 13 sectors that have individual sector weight lesser than 10% each. In case of NIFTY 50 there are 7 such sectors.
- This makes NIFTY Next 50 a well-diversified index strategy.

169

## NIFTY Next 50 has low-concentration of individual stocks resulting in well diversified portfolio

NIFTY Next 50 Portfolio		NIFTY 50 Portfolio	
Top 10 stocks			
Stocks	Weight (%)	Stocks	Weight (%)
UPL Ltd.	4.64	HDFC Bank Ltd.	9.3
Bajaj Finance Ltd.	4.44	I T C Ltd.	7.65
Hindustan Petroleum Corporation Ltd.	3.83	Housing Development Finance Corporation Ltd.	7.13
Bajaj Finserv Ltd.	3.76	Reliance Industries Ltd.	6.36
Godrej Consumer Products Ltd.	3.68	Infosys Ltd.	5.19
Motherson Sumi Systems Ltd.	3.62	ICICI Bank Ltd.	5.17
Piramal Enterprises Ltd.	3.42	Larsen & Toubro Ltd.	3.85
LIC Housing Finance Ltd.	3.39	Tata Consultancy Services Ltd.	3.49
Titan Company Ltd.	3.3	Kotak Mahindra Bank Ltd.	3.23
Britannia Industries Ltd.	3.27	State Bank of India	2.82
Total weight of top 10 stocks	37.35	Total weight of top 10 stocks	54.19

NIFTY Next 50 Portfolio		NIFTY 50 Portfolio	
Bottom 10 stocks			
Stocks	Weight (%)	Stocks	Weight (%)
NHPC Ltd.	1.02	Lupin Ltd.	0.7
Hindustan Zinc Ltd.	1.01	Tech Mahindra Ltd.	0.66
Emami Ltd.	0.99	GAIL (India) Ltd.	0.65
GlaxoSmithkline Consumer Healthcare Ltd.	0.95	Bosch Ltd.	0.59
Steel Authority of India Ltd.	0.91	Aurobindo Pharma Ltd.	0.53
Torrent Pharmaceuticals Ltd.	0.9	Ambuja Cements Ltd.	0.5
InterGlobe Aviation Ltd.	0.83	Bank of Baroda	0.42
United Breweries Ltd.	0.81	Tata Power Co. Ltd.	0.41
Glaxosmithkline Pharmaceuticals Ltd.	0.8	Tata Motors Ltd DVR	0.37
Oil India Ltd.	0.78	ACC Ltd.	0.37
Total weight of bottom 10 stocks	9	Total weight of bottom 10 stocks	5.2

Exhibit 5: Weightage of top 10 and bottom 10 stocks in NIFTY Next 50 and NIFTY 50 as on June 30, 2017

- NIFTY Next 50 has a diversified and more evenly distributed portfolio
- Top 10 stocks in NIFTY Next 50 contribute close to 37% exposure with individual stock weights ranging between 4.64 % (UPL Ltd.) to 3.27% (Britannia Industries Ltd.) as compared to NIFTY 50 where top 10 stocks contribute to close to 54% with individual stock weights ranging between 9.3% (HDFC Bank Ltd.) to 2.82% (State Bank of India) as on June 30, 2017.
- Similarly, bottom 10 stocks in NIFTY Next 50 contribute close to 9% exposure with individual stock weights ranging between 1.02% (NHPC Ltd.) to 0.78% (Oil India Ltd.) as compared to NIFTY 50 where bottom 10 stocks contribute to close to 5.2% with individual stock weights ranging between 0.7% (Lupin Ltd.) to 0.37% (ACC Ltd) as on June 30, 2017.



Range in Market Capitalization of stocks			
Parameter	Full Market Cap (in Rs Crs)	Parameter	Free Float Market Cap (in Rs Crs)
Largest Stock	1,11,401	Largest Stock	30,737
Smallest Stock	17,182	Smallest Stock	5,202
Median Stock	32,760	Median Stock	12,062

Exhibit 6: Market capitalization range of NIFTY Next 50 as on June 30, 2017

- In NIFTY Next 50, the largest stock has a Full market capitalization of Rs. 1,11,401 Cr, the smallest stock of Rs. 17,182 Cr and the median stock of Rs. 32,760 Cr.
- Similarly, the largest stock has a Free Float market capitalization of Rs. 30,737 Cr, the smallest stock of Rs. 5,202 Cr and the median stock of Rs. 12,062 Cr.

Stock level buying required for executing Rs. 100 Cr. ETF Basket	
Parameter	% of Avg. Daily traded value
Average	5.1%
Median	3.9%
Minimum	0.7%
Maximum	33.6%

\*Based on June ending 6 month date

- The investibility of the NIFTY Next 50 portfolio is reasonable. If a Rs 100 Cr portfolio needs to be created tracking the NIFTY Next 50 index, it can be created by buying individual stocks in the range of 0.7% to 33.6% of their individual average daily trade value with the median being at 3.9%.

## Summary

- NIFTY Next 50 represents companies which are presently constituents of NIFTY 100 large-capitalization stocks and may be potential candidates for inclusion in NIFTY 50, subject to index criteria.
- NIFTY Next 50 has witnessed a well-diversified portfolio at both stock and sector level.
- NIFTY Next 50 index has historically outperformed NIFTY 50 index since its inception with a higher return to risk ratio for various longer periods.
- These attributes of the index coupled with good historical performance both on a return and risk basis make NIFTY Next 50 an appealing index strategy.
- Investment in ETFs based on NIFTY Next 50 index aligns well with EPFO's investment philosophy of investing in large capitalization stocks (top 100 stocks based on market capitalization as defined by index provider). It also provides a good opportunity to diversify investment exposure beyond the existing NIFTY 50 stocks.



167  
For information on Index methodology and factsheet, please visit us at [www.nseindia.com](http://www.nseindia.com)

### **About India Index Services & Products Ltd. (IISL):**

India Index Services & Products Ltd. (IISL), a subsidiary of NSE, provides a variety of indices and index related services for the capital markets. IISL focuses upon the index as a core product. IISL owns and manages a portfolio of indices under the NIFTY brand of NSE, including the flagship index, the NIFTY 50. IISL equity Indices comprises of broad-based benchmark indices, sectoral indices, strategy indices, thematic indices and customised indices. IISL also maintains fixed income indices based on Government of India securities, corporate bonds and money market instruments. Many investment products based on IISL indices have been developed within India and abroad. These include index based derivatives traded on NSE, Singapore Exchange Ltd. (SGX), Chicago Mercantile Exchange Inc. (CME), Osaka Exchange Inc. (OSE), 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.

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## CRISIL's comments on alternative strategies for EPFO's investment in Exchange Traded Funds (ETFs)

**Background:** EPFO is presently investing in equities through ETFs tracking S&P BSE Sensex (Sensex) and Nifty 50 (Nifty). An expert group was constituted by EPFO to examine alternative strategies for EPFO's investments in ETFs and had recommended indices such as Next 50, S&P BSE Midcap Select or other indices within the top 100 stocks by market capitalization. In this regard, National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) have suggested ETFs based on Nifty Next 50, S&P BSE SENSEX Next 50 and S&P BSE MidCap Select Index for EPFO's consideration. EPFO has requested CRISIL to share its assessment on performance and risk of these indices.

Present investment pattern notified by Ministry of Labour & Employment (MoLE) allows investment in ETF/Index fund that replicate the portfolio of either Nifty 50 or S&P BSE Sensex and ETFs constructed specifically for disinvestment of shareholding of the government of India in body corporates. Investments in the alternative strategies as mentioned above, will require amendment in the investment guidelines notified by MoLE.

This note includes a comparative analysis of the following indices; S&P BSE MidCap Select Index, S&P BSE SENSEX Next 50, S&P BSE SENSEX, Nifty Next 50 and Nifty 50.

### Key messages

1. **Diversification:** Addition of stocks beyond Nifty 50 and S&P BSE SENSEX would improve overall portfolio diversification in terms of company as well as sector exposure.
2. **Returns:** Returns of S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices are higher in comparison to that of S&P BSE SENSEX and Nifty 50 over the trailing periods of 1 year, 3 years & 5 years.
3. **Market risk:** S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices have higher volatility in comparison to that of S&P BSE SENSEX and Nifty 50 over the trailing periods of 1 year, 3 years & 5 years.
4. **Returns adjusted for risk:** S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices have delivered higher return per unit of risk (volatility) in comparison to that of S&P BSE SENSEX and Nifty 50 on the basis of rolling returns for ten-year holding periods.
5. **Maximum drawdown and impact cost:** S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 indices have relatively higher drawdown and impact cost in comparison to S&P BSE SENSEX and Nifty 50.
6. **Concentration risk:** S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and Nifty Next 50 are more diversified compared to Nifty 50 and S&P BSE SENSEX.



**Performance Analysis****Point to Point Returns**

Index	Returns*			Annualised Standard Deviation		
	1 Year (%)	3 Year (%)	5 Year (%)	1 Year (%)	3 Year (%)	5 Year (%)
S&P BSE MidCap Select	25.84%	25.22%	25.12%	15.85%	17.02%	17.06%
<b>S&amp;P BSE SENSEX Next 50</b>	<b>23.15%</b>	<b>16.52%</b>	<b>20.88%</b>	<b>16.44%</b>	<b>17.68%</b>	<b>18.30%</b>
S&P BSE SENSEX	17.44%	9.40%	15.23%	10.61%	14.02%	14.45%
<b>Nifty Next 50</b>	<b>26.98%</b>	<b>21.36%</b>	<b>24.38%</b>	<b>15.51%</b>	<b>16.94%</b>	<b>16.97%</b>
<b>Nifty 50</b>	<b>18.16%</b>	<b>10.61%</b>	<b>15.42%</b>	<b>10.98%</b>	<b>14.15%</b>	<b>14.73%</b>

Performance as on July 31, 2017 \* Returns for period greater than 1 year are annualised

Over the short term i.e. 1 year, Nifty Next 50 index has higher return than the other indices. However, over longer period of 3 years and 5 years, S&P BSE MidCap Select has delivered higher return than the other Indices. S&P BSE SENSEX has delivered lowest returns over both the short term and the long term period.

S&P BSE SENSEX has the lowest standard deviation whereas S&P BSE SENSEX Next 50 has the highest standard deviation for one-year, three-year and five-year trailing periods.

**Maximum Drawdown and Impact Cost**

Index	Maximum Drawdown*	Impact Cost <sup>1</sup>
<b>S&amp;P BSE MidCap Select Index</b>	<b>-75.38%</b>	<b>0.0368</b>
S&P BSE SENSEX Next 50	-63.63%	0.0365
<b>S&amp;P BSE SENSEX</b>	<b>-60.33%</b>	<b>0.0192</b>
NIFTY NEXT 50	-72.13%	0.0409
<b>NIFTY 50</b>	<b>-59.50%</b>	<b>0.0202</b>

\* Maximum drawdown is calculated for the period December 19, 2005 to July 31, 2017

Maximum Drawdown is defined as an indicator of maximum downside risk over a specified period which indicates the maximum loss in the worst return period. It measure the return from peak to trough of a portfolio.

Impact cost represents the cost of executing a transaction in a given stock, for a specific predefined order size, at any given point of time. Impact cost for the indices is based on weighted average of impact cost of its constituents. S&P BSE MidCap Select, S&P BSE SENSEX Next 50 and NIFTY NEXT 50 has higher drawdown and impact cost compared to S&P BSE SENSEX and NIFTY 50.

**Rolling Returns**

Rolling returns are an indicator of the consistency in performance over an extended period of time. For five-year and ten-year holding periods, S&P BSE MidCap Select Index on an average gave the highest return. S&P BSE MidCap Select Index gave higher risk-adjusted return over the five-year and ten-year holding periods.

<sup>1</sup> Based on the impact cost of stocks published on BSE website.



Rolling return (December 15, 2015 to July 31, 2017)		S&P BSE MidCap Select Index	S&P BSE SENSEX Next 50	S&P BSE SENSEX	Nifty Next 50	Nifty 50
5 year	Minimum	12.73%	8.25%	6.12%	10.49%	6.06%
	Maximum	26.61%	22.07%	16.11%	24.92%	16.20%
	Average	20.26%	15.52%	11.11%	17.89%	11.21%
	Risk <sup>2</sup>	4.31%	4.07%	2.76%	4.44%	2.83%
	Risk-Adjusted Return <sup>3</sup>	4.70	3.81	4.03	4.03	3.96
10 year	Minimum	13.72%	11.53%	8.05%	11.70%	8.50%
	Maximum	19.37%	17.52%	13.07%	17.61%	13.26%
	Average	15.97%	14.11%	10.06%	14.16%	10.29%
	Risk	1.36%	1.35%	1.18%	1.32%	1.08%
	Risk-Adjusted Return	11.71	10.48	8.51	10.76	9.49

### Market Phase Analysis

In the recent times of Chinese Slowdown and Global Liquidity and Domestic Reforms Driven Rally, S&P BSE MidCap Select Index has delivered higher return compared to other indices. Nifty Next 50 has outperformed most indices during market rallies.

Market Phases	S&P BSE MidCap Select Index	S&P BSE SENSEX Next 50	S&P BSE SENSEX	Nifty Next 50	Nifty 50
Tech bubble (Mar'00 – Sep'01)	NA	NA	-30.40%	NA	-28.07%
Bull Phase (Mar'03 – Dec'07)	NA	NA	51.72%	64.81%	50.00%
Sub Prime Crisis (Dec'07 – Mar'09)	-59.96%	-48.95%	-43.91%	-56.64%	-42.71%
Post Sub Prime Crisis (Mar'09 – Dec'10)	77.65%	58.04%	55.47%	82.52%	51.39%
European Crisis (Dec'10 – Jun'13)	2.81%	-2.48%	-0.59%	-1.19%	-0.71%
Post European Crisis (Jun'13 – Feb'15)	34.81%	37.76%	29.49%	39.49%	29.54%
Chinese Slowdown (Feb'15 – Feb'16)	-7.07%	-16.58%	-20.06%	-12.01%	-20.02%
Global Liquidity and Domestic Reforms Driven Rally (Feb'16 – Jul'17)	45.79%	43.13%	29.82%	43.76%	31.51%

<sup>2</sup> Standard Deviation is considered as a measure of risk

<sup>3</sup> Ratio of average return to standard deviation is considered as a measure of Risk-Adjusted Return



Rolling return (December 15, 2015 to July 31, 2017)		S&P BSE MidCap Select Index	S&P BSE SENSEX Next 50	S&P BSE SENSEX	Nifty Next 50	Nifty 50
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Performance Analysis

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<sup>1</sup> Based on the impact cost of stocks published on BSE website.



**Portfolio Analysis**

Comparison of portfolio of the indices shows that, Consumer Non-Durables sector appears in the top five sectors across all indices. Banks form significant portion of S&P BSE SENSEX and the Nifty 50, whereas Finance is one of the top sectors in the other indices, particularly in S&P BSE MidCap Select Index. S&P BSE SENSEX Next 50 has a well-diversified portfolio with a one-year average of 47.78% in the top five sector and 33.71% in the top ten companies, which is lower than all the other indices.

Nifty 50 index covers 20 industries and Nifty Next 50 index has coverage of 24 industries thereby providing greater sectoral diversification. Similarly, S&P BSE Sensex covers 14 industries and S&P BSE SENSEX Next 50 covers 22 industries.

**Table 1 (Industry Composition)**

Sector	S&P BSE MidCap Select	S&P BSE SENSEX Next 50	S&P BSE SENSEX	NIFTY NEXT 50	NIFTY 50
Auto	3.44	3.84	11.38	2.21	10.26
Auto ancillaries	7.26	6.98	-	3.59	0.58
Banks	-	5.99	27.86	1.72	27.52
Cement	-	4.51	-	2.30	2.00
Chemicals	2.33	3.21	-	1.74	-
Construction	-	1.20	-	1.22	-
Construction project	-	-	4.64	-	3.86
Consumer durables	4.47	1.56	-	4.82	-
Consumer non durables	6.78	11.78	12.20	19.54	9.91
Ferrous metals	4.94	4.10	1.23	4.19	1.00
Finance	24.19	15.23	9.19	19.34	8.46
Gas	3.28	2.13	-	1.74	0.64
Healthcare services	2.06	1.34	-	-	-
Industrial capital goods	2.14	6.05	-	6.58	-
Industrial products	5.91	3.83	-	1.90	-
Media & entertainment	-	-	-	1.09	0.78
Minerals/mining	-	1.39	1.00	1.42	0.85
Non - ferrous metals	-	4.24	-	1.02	2.21
Oil	-	-	1.48	0.74	1.26
Pesticides	6.68	4.32	-	4.55	-
Petroleum products	6.14	3.97	8.66	4.06	8.98
Pharmaceuticals	9.35	7.99	4.52	9.71	4.22
Power	4.73	3.06	2.90	0.93	2.74
Software	1.72	-	12.02	1.14	11.71
Telecom - equipment & accessories	-	-	-	-	0.74
Telecom - services	-	1.62	1.78	1.80	1.45
Textile products	2.00	-	-	-	-
Transportation	2.58	1.67	1.14	2.64	0.84
<b>Grand Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>No. of Industry</b>	<b>18</b>	<b>22</b>	<b>14</b>	<b>24</b>	<b>20</b>

Portfolio data as on July 31, 2017



**Table 2 (Top 5 Sector Exposure)**

Index	Top 5 Sector Exposure (%)	
	31-Jul-17	One-year Average (August 31, 2016 to July 31, 2017)
S&P BSE MidCap Select Index	54.26	49.49
<b>S&amp;P BSE SENSEX Next 50</b>	<b>48.03</b>	<b>47.78</b>
S&P BSE SENSEX	72.65	64.73
<b>NIFTY NEXT 50</b>	<b>60.00</b>	<b>60.48</b>
NIFTY 50	68.38	67.50

**Table 3 (Top 10 Company Exposure)**

Index	Top 10 Company Exposure (%)	
	31-Jul-17	One-year Average (August 31, 2016 to July 31, 2017)
S&P BSE MidCap Select Index	52.45	49.67
<b>S&amp;P BSE SENSEX Next 50</b>	<b>35.09</b>	<b>33.71</b>
S&P BSE SENSEX	66.21	65.28
<b>NIFTY NEXT 50</b>	<b>38.54</b>	<b>36.26</b>
NIFTY 50	54.38	52.83

**Portfolio Concentration**

**Portfolio concentration** is measured by the Herfindhal-Hirschman<sup>4</sup> Index (H) which is a measure of concentration of the companies in the respective indices.

$$H = \sum_{k=1}^n x^2 k$$

Where,

k= allocation of stocks in the index,

n= number of stocks in the index

**Table 4 (Herfindhal-Hirschman index)**

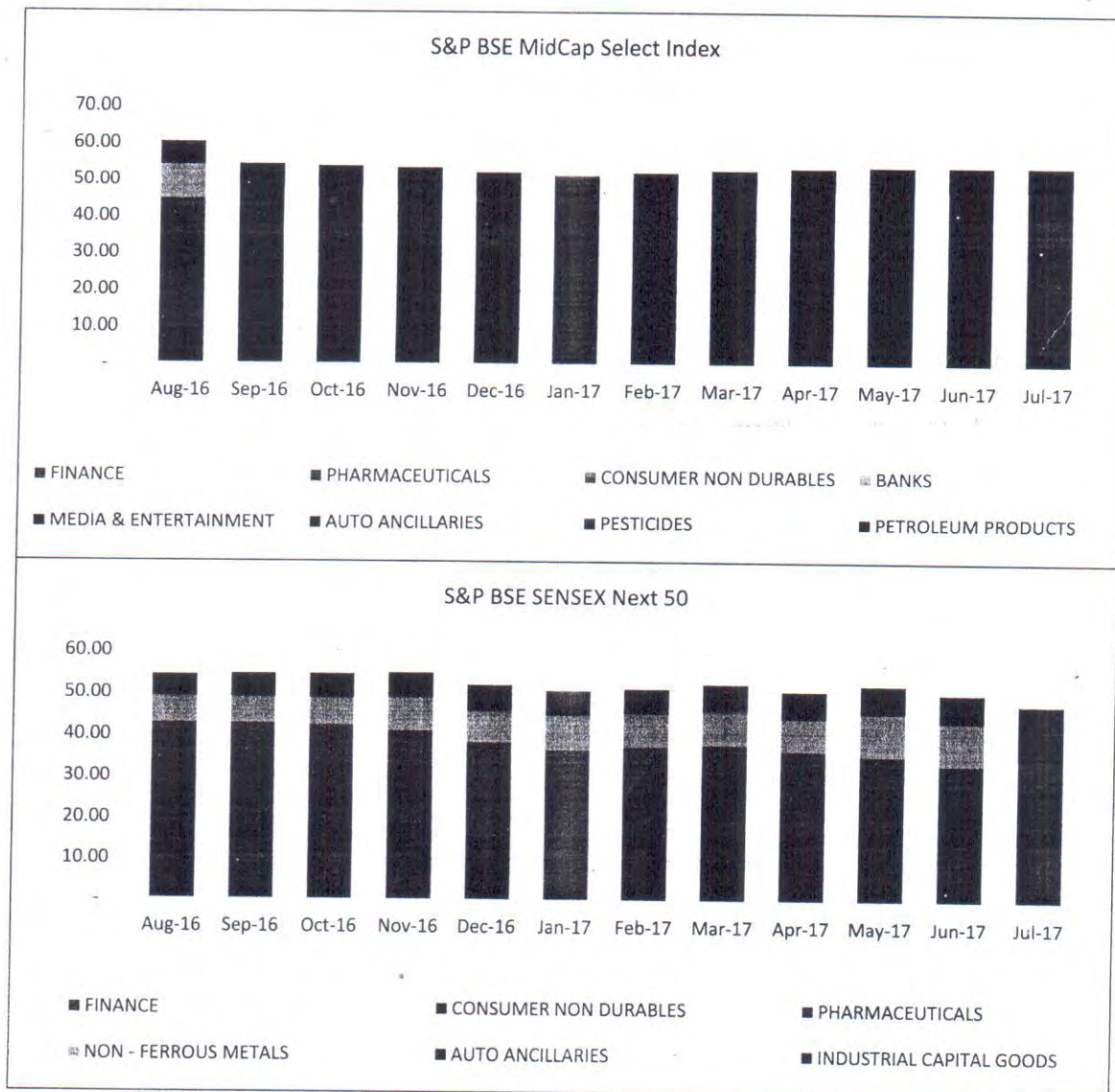
Index	Herfindhal-Hirschman Index as on 31-Jul-17
<b>S&amp;P BSE MidCap Select Index</b>	<b>20.33</b>
S&P BSE SENSEX Next 50	15.48
<b>S&amp;P BSE SENSEX</b>	<b>23.89</b>
NIFTY NEXT 50	16.09
<b>NIFTY 50</b>	<b>20.02</b>

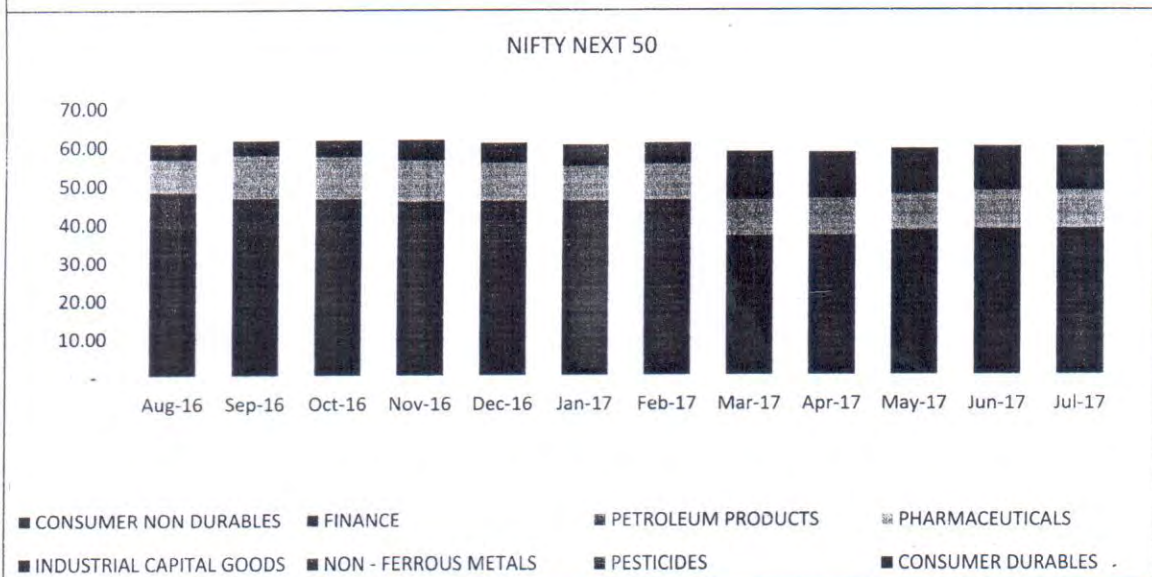
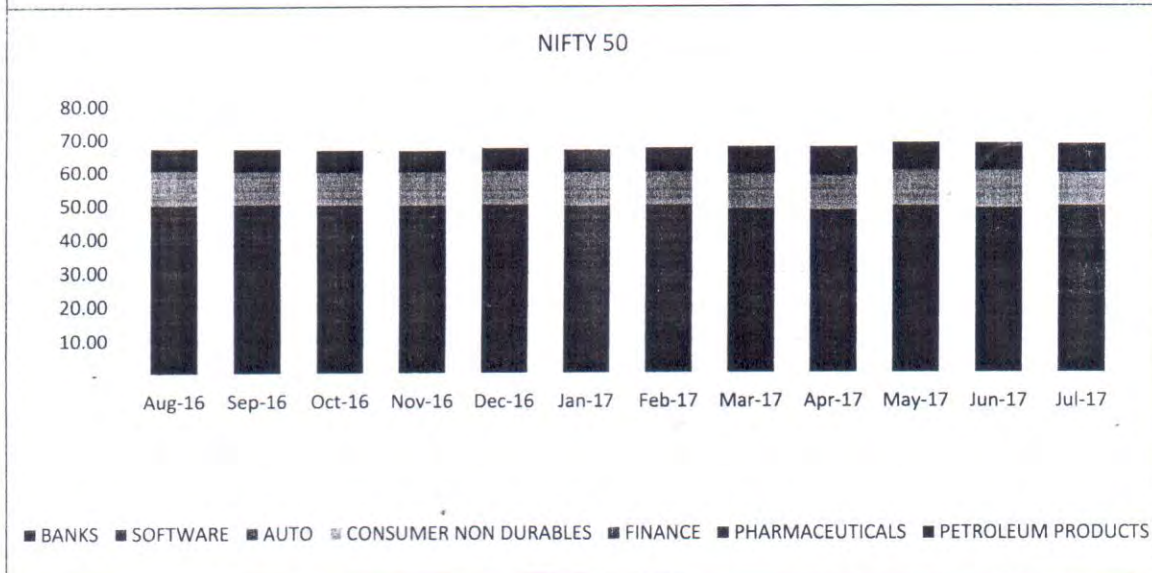
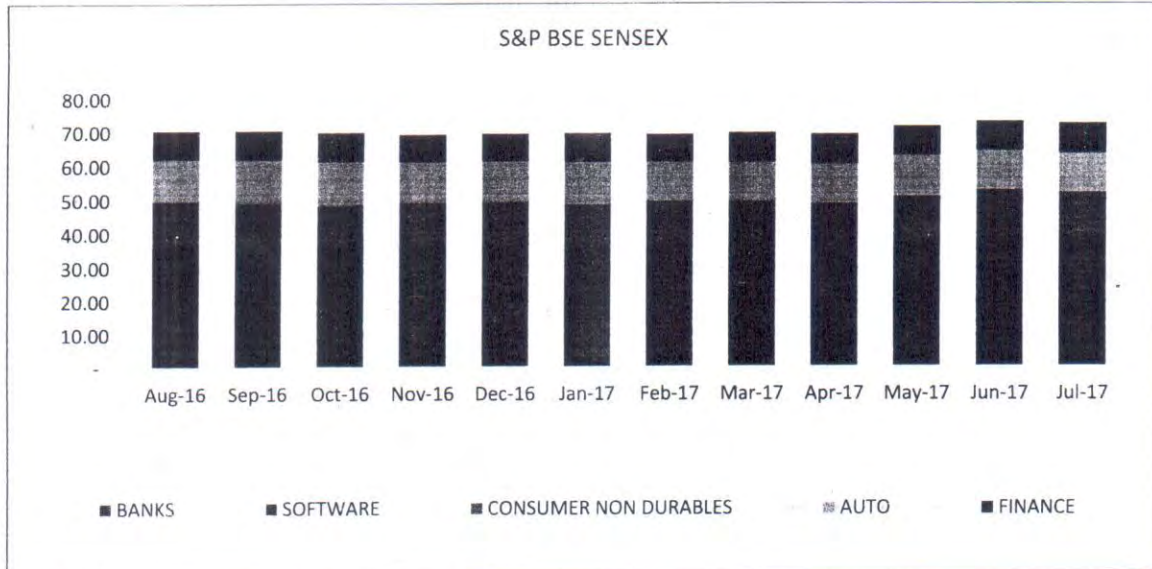
S&P BSE SENSEX Next 50 has highest diversification as measured by Herfindahl index whereas, S&P BSE SENSEX has least diversified composition based on the underlying portfolio details as July 31, 2017.

<sup>4</sup> Herfindhal-Hirschman index measures the concentration of companies in the portfolio where lower the index value better is the diversification (i.e. lower the concentration)



Top 5 sector movement







### Allocation of Funds

For allocation of funds within NSE and BSE indices, ratio of free float market capitalization of the indices can be considered.

For NSE indices, the following table illustrates the calculation of above said ratio,

Index	Free Float Market Capitalization (Rs. Crore) - As on July 31, 2017	Allocation on the basis of free float ratio
<b>NIFTY 50</b>	3,809,915	84%
<b>NIFTY NEXT 50</b>	704,640	16%
<b>Total</b>	4,514,555	100%

For BSE indices, the following table illustrates the calculation of above said ratio,

Index	Free Float Market Capitalization (Rs. Crore) - As on July 31, 2017	Allocation on the basis of free float ratio
<b>S&amp;P BSE SENSEX</b>	3,118,415	72%
<b>S&amp;P BSE SENSEX Next 50</b>	726,215	17%
<b>S&amp;P BSE MidCap Select Index</b>	469,760	11%
<b>Total</b>	4,314,390	100%