

NIFTY 50 & NIFTY Next 50 : Index Analysis

Interview take-home assignment
Prepared by: Devanshi Saini



Introduction

NIFTY 50 is the index that represents the performance of the **top 50 stocks** in order of free float market capitalization listed with the NSE.

NIFTY Next 50 is the index that represents the performance of 50 large cap **stocks which come after the top 50** (NIFTY 50) in order of free float market capitalization in NIFTY 100. NIFTY Next 50 thus represents companies which might be potential for inclusion in NIFTY 50.

Given the historical index data of daily reports for a duration of six months, the **objective** of the task is to **analyse the top market performers** with respect to their monthly returns and **compare the performance** of the two aforementioned indices.

The software used to conduct the following analysis is **Python** and the data visualization tool used is **plotly**.

Dataset

Sr. No	Security Symbol	Security Name	Industry	Equity Capital (In Rs.)	Free Float Market Capitalisation (Rs. Crores)	Weightage (%)	Beta	R2	Volatility (%)	Monthly Return	Avg. Impact Cost (%)
1	ADANIPORTS	Adani Ports and Special Economic Zone Ltd.	SHIPPING	4141903522	25883.17	0.59	1.27	0.25	1.85	-14.158946	0.05
2	ASIANPAINT	Asian Paints Ltd.	PAINTS	959197790	58304.93	1.34	0.74	0.16	1.55	-5.767059	0.03
3	AXISBANK	Axis Bank Ltd.	BANKS	5137681032	108698.56	2.50	1.34	0.22	1.66	-5.544859	0.03
4	BAJAJ-AUTO	Bajaj Auto Ltd.	AUTOMOBILES - 2 AND 3 WHEELERS	2893670200	36549.99	0.84	1.02	0.21	1.86	-2.091189	0.03
5	BAJFINANCE	Bajaj Finance Ltd.	FINANCE	1155936776	51374.45	1.18	1.24	0.19	2.52	-24.105580	0.03
6	BAJAJFINSV	Bajaj Finserv Ltd.	FINANCE	795675485	36320.29	0.83	1.22	0.25	2.14	-10.990249	0.04
7	BPCL	Bharat Petroleum Corporation Ltd.	REFINERIES	21692527440	29218.53	0.67	1.04	0.12	2.39	3.327810	0.02
8	BHARTIARTL	Bharti Airtel Ltd.	TELECOMMUNICATION - SERVICES	19987000535	44659.55	1.03	1.25	0.15	2.08	-11.801485	0.04
9	INFRATEL	Bharti Infratel Ltd.	TELECOMMUNICATION - EQUIPMENT	18496082460	22372.31	0.51	0.64	0.05	2.19	-8.347856	0.04
10	CIPLA	Cipla Ltd.	PHARMACEUTICALS	1610433594	33179.08	0.76	0.86	0.13	1.37	-1.223288	0.03

Dataset - relevant items

Out of the given items in the data set, the items relevant for our computation are **Weightage (%)** and **Monthly Returns**.

The formulas are given as follows:

$$weightage_{(stock\ A)} = \frac{\text{Free float market capitalization}_{(stock\ A)}}{\sum \text{Free float market capitalization}_{(market)}}$$

$$Monthly\ returns_{(stock\ A,\ month\ M)} = \frac{\text{Closing Price}_{(stock\ A,\ month\ M)} - \text{Closing Price}_{(Stock\ A,\ month\ M-1)}}{\text{Closing Price}_{(Stock\ A,\ month\ M-1)}} \times 100$$

Top performing stocks

By index, By month

METHODOLOGY:

- Top five stocks are calculated for the months September 2018 to February 2019 for both Indices.
- In Python, once the data set is read into, it is sorted in descending order by 'Monthly Returns'.
- Out of the obtained list, top five data points are then extracted, with the relevant column heads.
- The library used in Python is pandas.

The **output** is given as:

NIFTY50 top stocks : September 2018

Security Name	Weightage (%)	Monthly Return
Wipro Ltd.	0.84	7.551867
Tata Consultancy Services Ltd.	5.38	5.066397
HCL Technologies Ltd.	1.39	3.951455
Bharat Petroleum Corporation Ltd.	0.67	3.327810
Vedanta Ltd.	0.99	2.020202

NIFTY50 top stocks : October 2018

Security Name	Weightage (%)	Monthly Return
ICICI Bank Ltd.	5.52	16.18
Bajaj Finance Ltd.	1.36	9.90
State Bank of India	2.55	5.99
Titan Company Ltd.	0.85	4.84
Zee Entertainment Enterprises Ltd.	0.61	2.85

NIFTY50 top stocks : November 2018

Security Name	Weightage (%)	Monthly Return
Bharat Petroleum Corporation Ltd.	0.59	17.92
Maruti Suzuki India Ltd.	2.35	15.80
Adani Ports and Special Economic Zone Ltd.	0.66	14.68
IndusInd Bank Ltd.	1.93	14.50
UltraTech Cement Ltd.	0.96	14.30

NIFTY50 top stocks : December 2018

Security Name	Weightage (%)	Monthly Return
Indiabulls Housing Finance Ltd.	0.65	19.32
Bharat Petroleum Corporation Ltd.	0.67	11.82
Power Grid Corporation of India Ltd.	1.05	10.27
Hindustan Petroleum Corporation Ltd.	0.44	9.00
Bajaj Finserv Ltd.	0.90	8.05

NIFTY50 top stocks : January 2019

Security Name	Weightage (%)	Monthly Return
Axis Bank Ltd.	2.96	16.58
Infosys Ltd.	6.57	13.75
Bharti Infratel Ltd.	0.57	12.84
Wipro Ltd.	0.96	11.59
Reliance Industries Ltd.	9.69	9.44

NIFTY50 top stocks : February 2019

Security Name	Weightage (%)	Monthly Return
Zee Entertainment Enterprises Ltd.	0.60	22.75
Yes Bank Ltd.	0.99	19.09
Bajaj Auto Ltd.	0.91	13.55
Tech Mahindra Ltd.	1.21	13.42
UPL Ltd.	0.75	11.58

NIFTY next 50 top stocks : September 2018

Security Name	Weightage (%)	Monthly Return
Biocon Ltd.	2.27	10.793269
ABB India Ltd.	1.17	7.749924
Aurobindo Pharma Ltd.	3.27	4.447562
Oil India Ltd.	0.93	2.785581
ICICI Lombard General Insurance Company Ltd.	1.15	1.570648

NIFTY next 50 top stocks : October 2018

Security Name	Weightage (%)	Monthly Return
Bandhan Bank Ltd.	0.89	23.93
Pidilite Industries Ltd.	2.74	21.32
Shree Cement Ltd.	3.11	18.47
InterGlobe Aviation Ltd.	1.54	16.80
United Spirits Ltd.	3.10	16.57

NIFTY next 50 top stocks : November 2018

Security Name	Weightage (%)	Monthly Return
Bharat Electronics Ltd.	1.24	15.88
United Spirits Ltd.	2.76	12.15
Bank of Baroda	1.69	11.21
SBI Life Insurance Company Ltd.	1.08	9.54
Havells India Ltd.	2.60	8.63

NIFTY next 50 top stocks : December 2018

Security Name	Weightage (%)	Monthly Return
Bandhan Bank Ltd.	0.98	13.75
Bank of Baroda	1.69	13.09
InterGlobe Aviation Ltd.	1.67	12.21
Colgate Palmolive (India) Ltd.	2.67	10.16
Siemens Ltd.	1.39	10.12

NIFTY next 50 top stocks : January 2019

Security Name	Weightage (%)	Monthly Return
Aurobindo Pharma Ltd.	3.50	7.48
Lupin Ltd.	3.32	3.72
Havells India Ltd.	2.82	3.17
Biocon Ltd.	2.15	3.06
Dabur India Ltd.	3.97	3.02

NIFTY next 50 top stocks : February 2019

Security Name	Weightage (%)	Monthly Return
Bandhan Bank Ltd.	0.91	18.84
Motherson Sumi Systems Ltd.	3.09	15.65
Sun TV Network Ltd.	0.95	14.74
Piramal Enterprises Ltd.	3.24	14.47
Aditya Birla Capital Ltd.	0.87	13.46

Total Returns (By index, By month)

METHODOLOGY:

- The calculation for Total Returns for a given month and a given index is done using the formula:

$$Total\ Returns_{(month\ M)} = \sum \frac{(Monthly\ Return \times Weightage)}{100}$$

- The given formula is applied on each stock for every month in both indices. As a result, we obtain twelve values for all six months in two index tables.
- The final values obtained are plotted using 'plot.ly'

The **output** is given as:

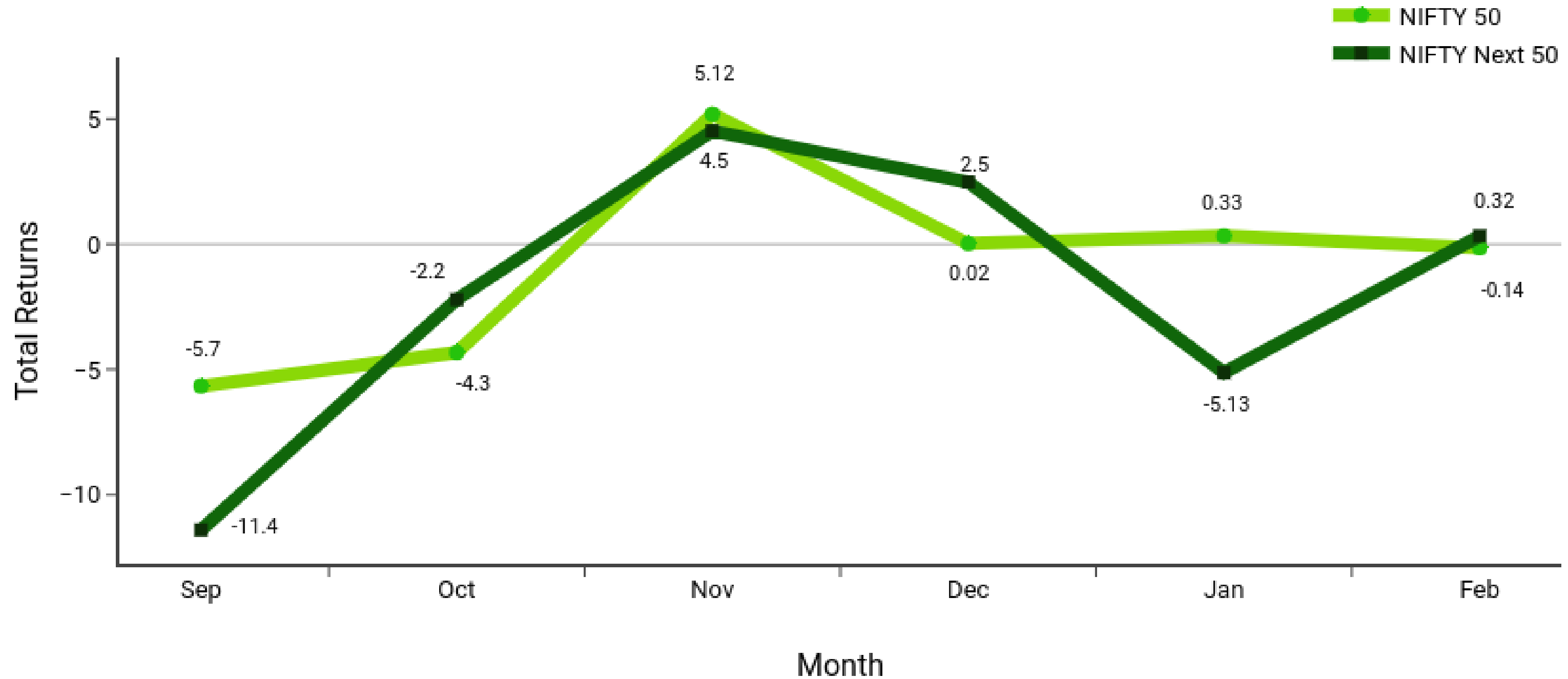
NIFTY50 total returns : Sep' 18 - Feb' 19

Total Returns (nifty50)	
Month	
Sep	-5.662181
Oct	-4.326490
Nov	5.188389
Dec	0.024880
Jan	0.328807
Feb	-0.141857

NIFTY next 50 total returns : Sep' 18 - Feb' 19

Total Returns (niftynext50)	
Month	
Sep	-11.409402
Oct	-2.205974
Nov	4.520387
Dec	2.480322
Jan	-5.129962
Feb	0.328264

NIFTY 50 Returns vs NIFTY Next 50 Returns



Conclusion

From the given results, we can conclude that

- a) **Market Capitalization of a company may remain consistently positioned** in the market, however the **returns vary significantly** each month, since each month the top performers are different barring a few **exceptions** like Zee Entertainment Enterprises Ltd, Bharat Petroleum Corporation Ltd. and Bajaj Group with Bajaj Finserv, Bajaj Finance and Bajaj Auto in NIFTY 50.
- b) **In NIFTY Next 50**, Bandhan Bank Ltd, Aurobindo Bank Ltd, Dabur India Ltd., Biocon Ltd, Bank of Baroda, Havells India Ltd., Inter Globe Aviation Ltd and United Spirits Ltd can be seen as **consistent performers**, appearing twice (or more) in the top 5 stock list.
- c) When the total returns are analysed, it is confirmed that a stock with a higher market capitalization does not guarantee higher outcomes as it can be seen that **NIFTY Next 50 stock returns can be higher than NIFTY 50 stock returns**.
- d) The results also invalidate the '**Santa Claus Rally**' theory that usually stands for Indian markets as we see the highest returns are in the month of November.

Thank You

Interview take-home assignment
prepared by: Devanshi Saini

