

# Financial Analysis

Historical Data Analysis



# Market Asset Selection

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Identified some major market assets to complete this project. Selected assets are -

1. Infosys Limited (INFY.NS)
2. Indian Railway Catering & Tourism Corporation Limited (IRCTC.NS)
3. Tata Elxsi Limited (TATAELXSI.NS)

# Asset Return Analysis

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Calculated the return for selected asset over the historical data available for the period of 3 years.

(Available at [Finance Yahoo!](#))

Data Cleaning was performed on the Google Spreadsheets and initial Analysis was conducted on Spreadsheets.

After initial analysis on Spreadsheets and understanding of Data, worked on analysis on Python to optimize the weighted average selection.

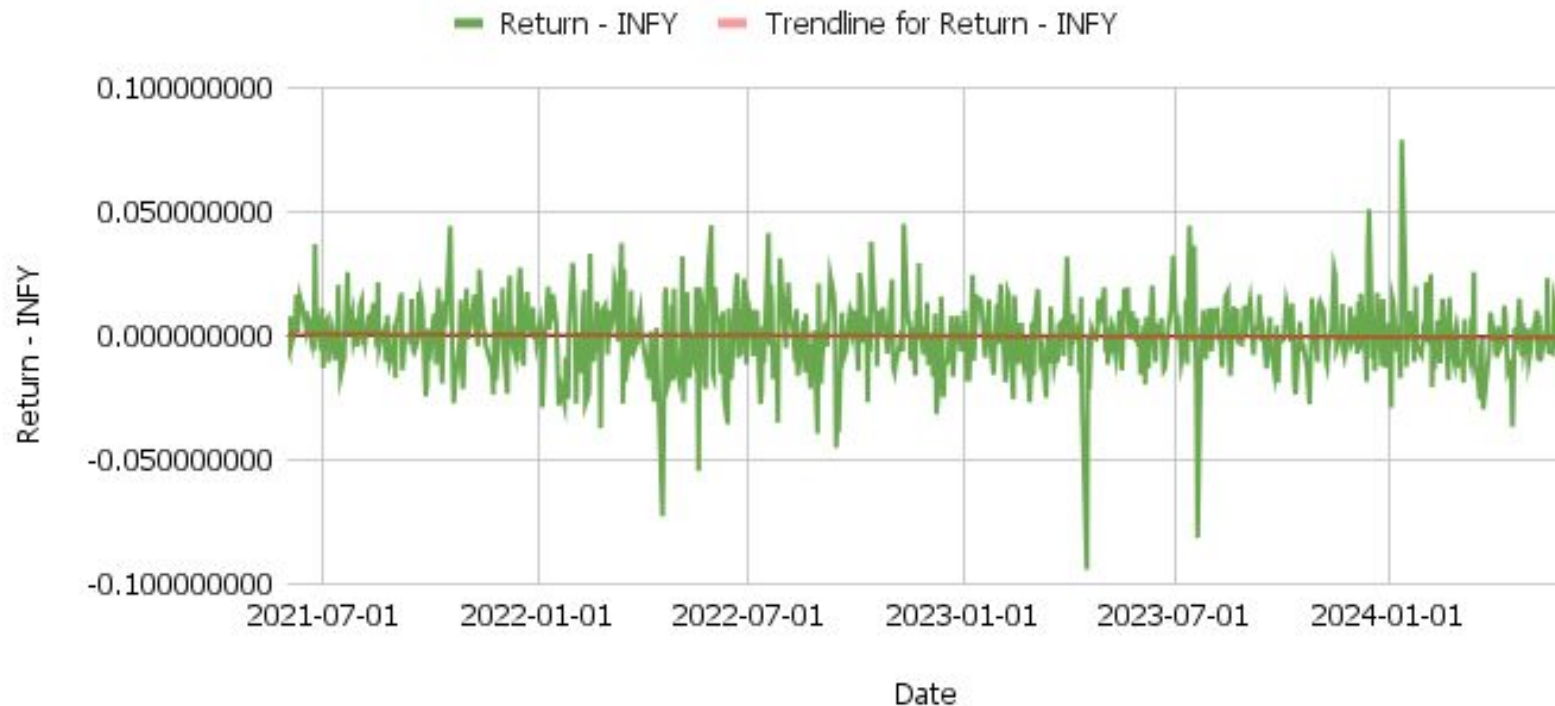
- [Financial Analytics - Asset Analysis](#)
- [Financial Analytics - Asset Analysis.ipynb](#)

# Descriptive Statistics Analysis

<i><b>Descriptive Statistics</b></i>	<b>Return - INFY</b>	<b>Return - IRCTC</b>	<b>Return - TATAELXSI</b>
<i><b>Mean</b></i>	0.000129464	0.001613052	0.001094179
<i><b>Median</b></i>	0.000157213	0.000766000	-0.000060657
<i><b>Data Range</b></i>	0.089527239	0.182562494	0.071277635
<i><b>Variance</b></i>	0.0002327671851	0.000560170123	0.0004519098257
<i><b>Standard Deviation</b></i>	0.01525670951	0.02366791336	0.0212581708
<i><b>Skewness</b></i>	-0.4089107378	-0.2717655074	0.755987861

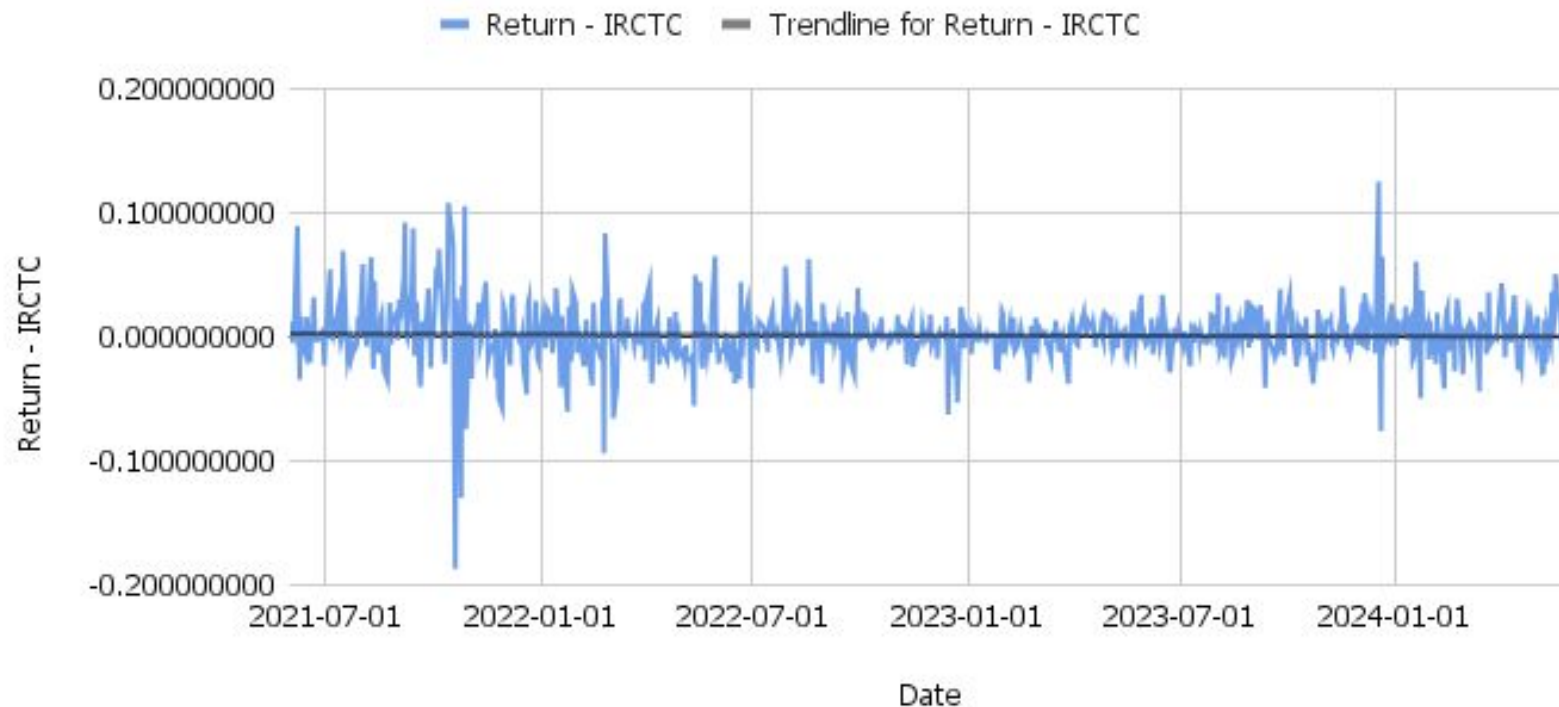
# Return - INFY vs. Date

— · Return - INFY vs. Date



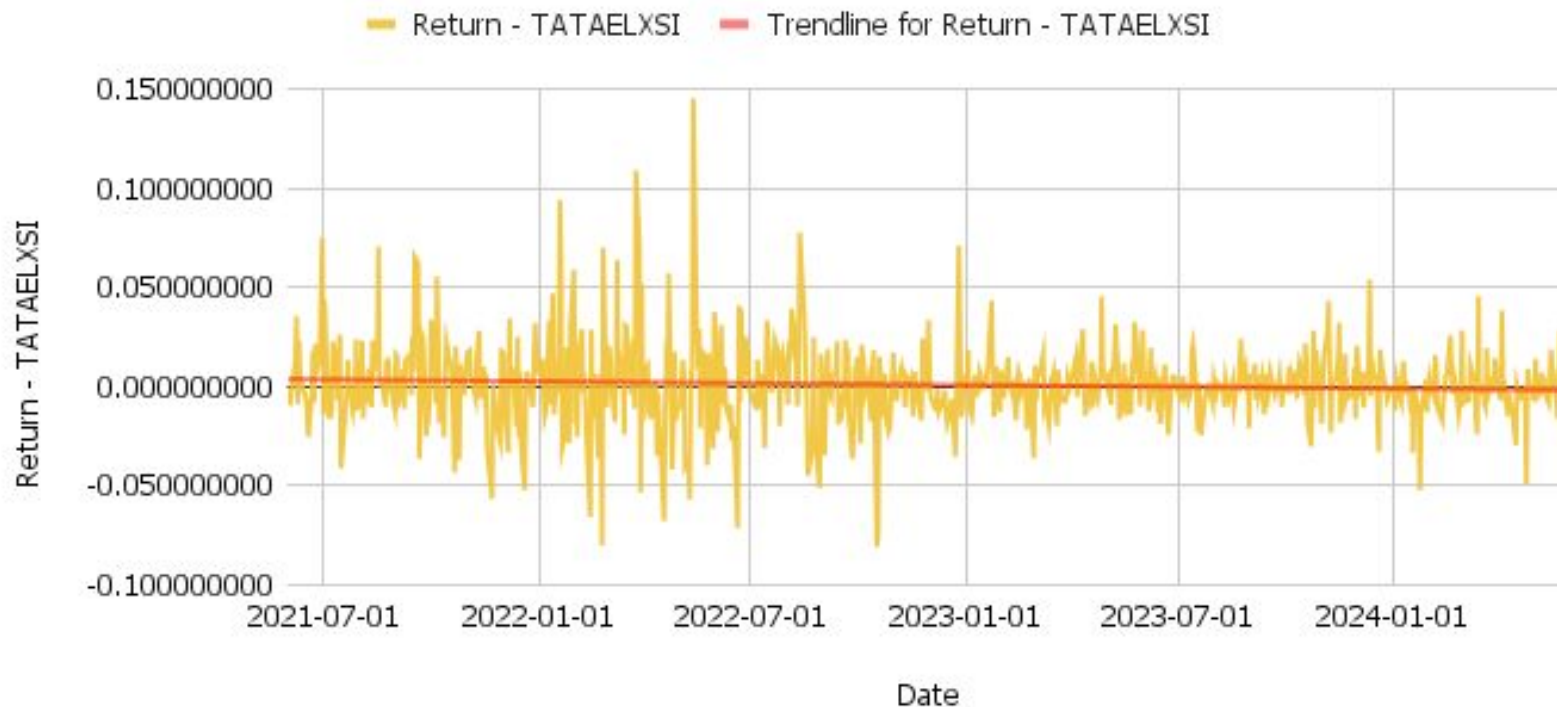
# Return - IRCTC vs. Date

— · Return - IRCTC vs. Date

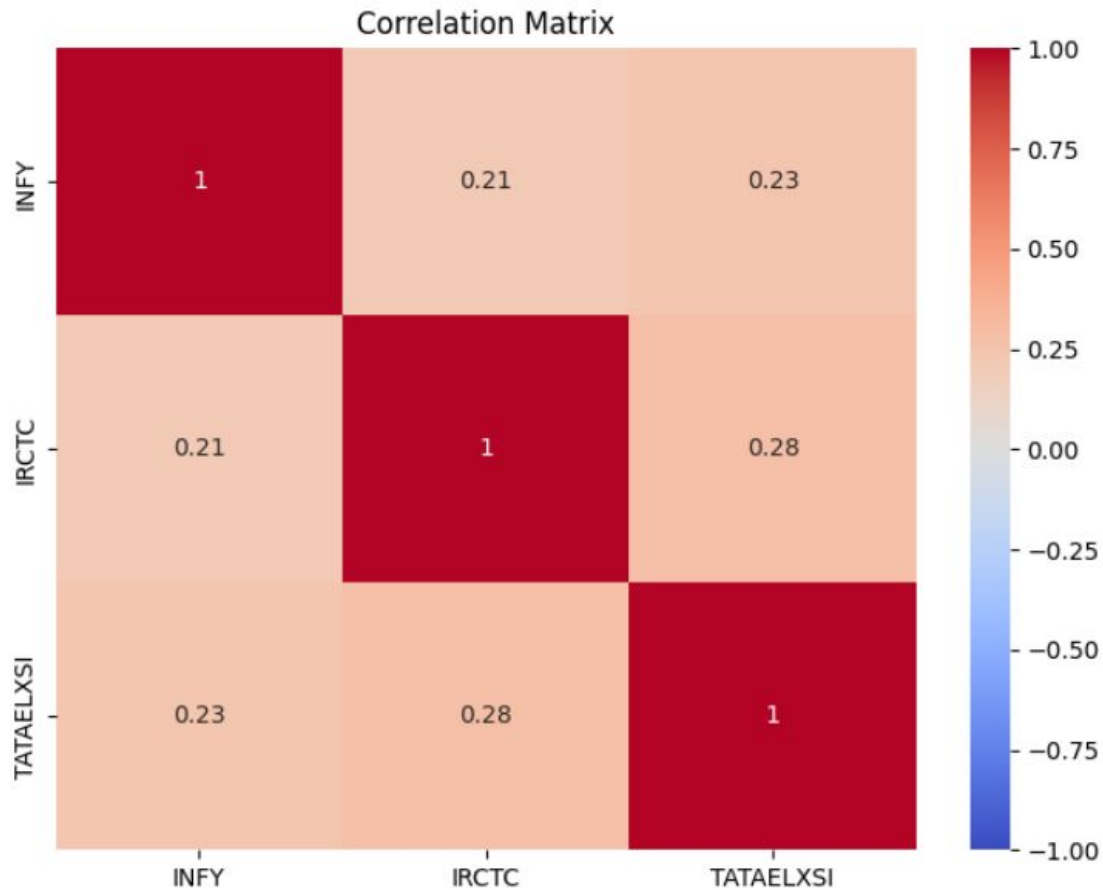


# Return - TATAELXSI vs. Date

## Return - TATAELXSI vs. Date



# Correlation Matrix





# Combined Index - Weighted Average

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After Observations from the Correlation Matrix, assigned the below weights to the returns of each asset to observe the output of the combined index.

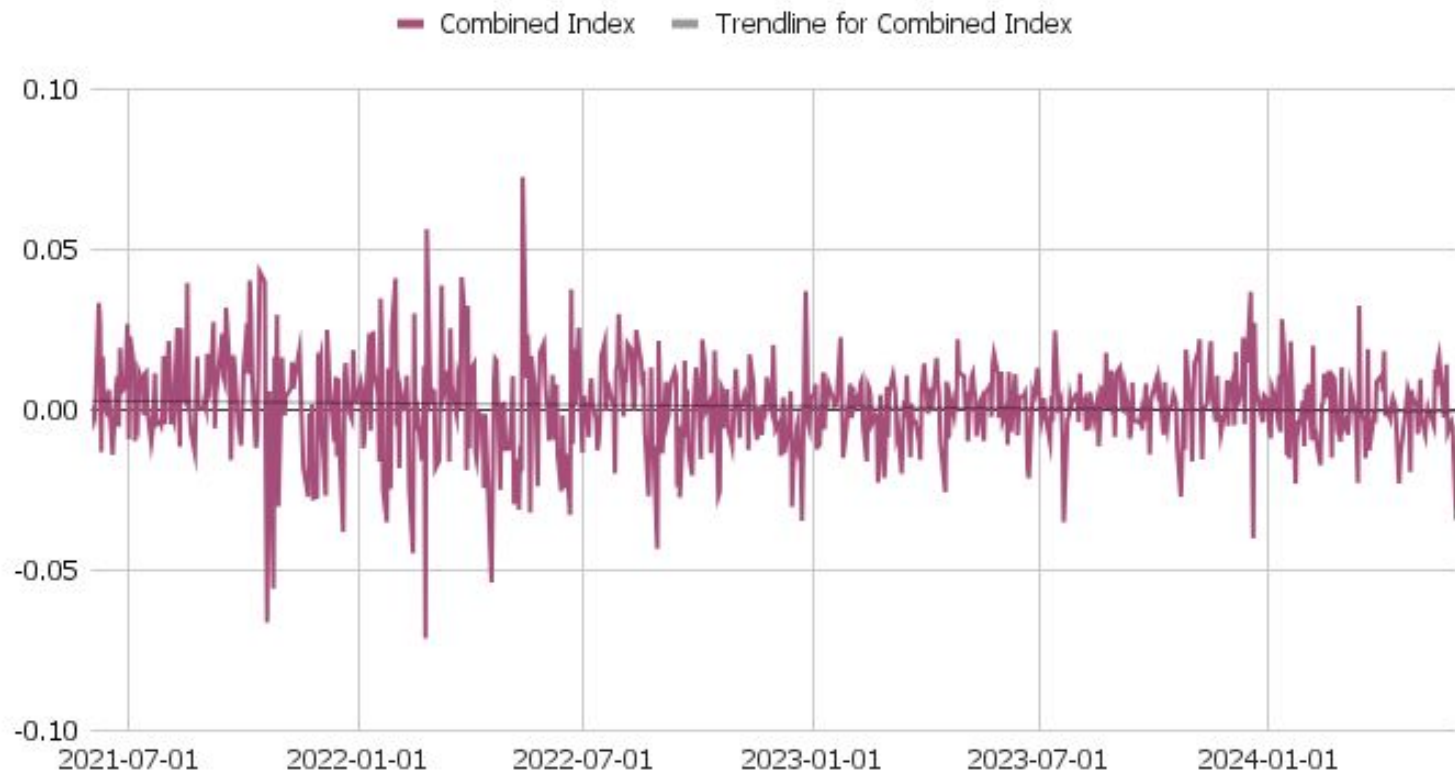
<b>Return - INFY</b>	30%
<b>Return - IRCTC</b>	30%
<b>Return - TATAELXSI</b>	40%

# Descriptive Statistics Analysis (Inclusive of Combined)

<i>Descriptive Statistics</i>	Return – INFY	Return – IRCTC	Return – TATAELXSI	Combined Index
<i>Mean</i>	0.000129464	0.001613052	0.001094179	0.000960426493
<i>Median</i>	0.000157213	0.000766000	−0.000060657	0.001094389533
<i>Data Range</i>	0.089527239	0.182562494	0.071277635	0.06481239612
<i>Variance</i>	0.0002327671851	0.000560170123	0.0004519098257	0.0002092804294
<i>Standard Deviation</i>	0.01525670951	0.02366791336	0.0212581708	0.0144665279
<i>Skewness</i>	−0.4089107378	−0.2717655074	0.755987861	−0.2229418361

# Return - Combined Index vs. Date

Return - Combined Index Vs. Date



# Descriptive Statistics Observations

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<i><b>Descriptive Statistics</b></i>	<b>Max</b>	<b>Min</b>
<i><b>Mean</b></i>	Return - IRCTC	Return - INFY
<i><b>Median</b></i>	Combined Index	Return - TATAELXSI
<i><b>Data Range</b></i>	Return - IRCTC	Combined Index
<i><b>Variance</b></i>	Return - IRCTC	Combined Index
<i><b>Standard Deviation</b></i>	Return - IRCTC	Combined Index
<i><b>Skewness</b></i>	Return - TATAELXSI	Return - INFY

# Descriptive Statistics Observations

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After looking at the descriptive statistics for the Combined Index, it is observed that the dispersion parameters like Data Range, Variance & Standard deviation show the minimum of the combined index.

To approach the highest return, we can think of creating more optimum functions and or trying out new algorithms.

Thank You