IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 22, Issue 10. Ser. VIII (October 2020), PP 24-31
www.iosrjournals.org

"A Detailed study on India's premier Index- Nifty"

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Abstract:
Indian stock market has a prominent position in the world's trading history. Over the years, 'SENSEX' and 'NIFTY' are considered as the two important barometers for the Indian stock market and most of the trading in the Indian Stock market happens through BSE and NSE. Both BSE and NSE have emerged as one of the largest exchanges in the world and have built a strong global reputation and has been a driving force for the capital markets in India. The present study endeavors to analyze the India's premier index -'Nifty'. The purpose of this study is to provide greater exposure to the investors/traders and financial analysts to base their decision with respect to price movements (high and low), risk & returns associated with the stocks in 'Nifty' and its functioning and performance.

Keywords: *Moving Average, Fractals, Relative Strength Index, Average Directional Movement Index, Ascending Triangle and Triple top Pattern.*

Date of Submission: 15-10-2020 Date of Acceptance: 31-10-2020

I. Introduction

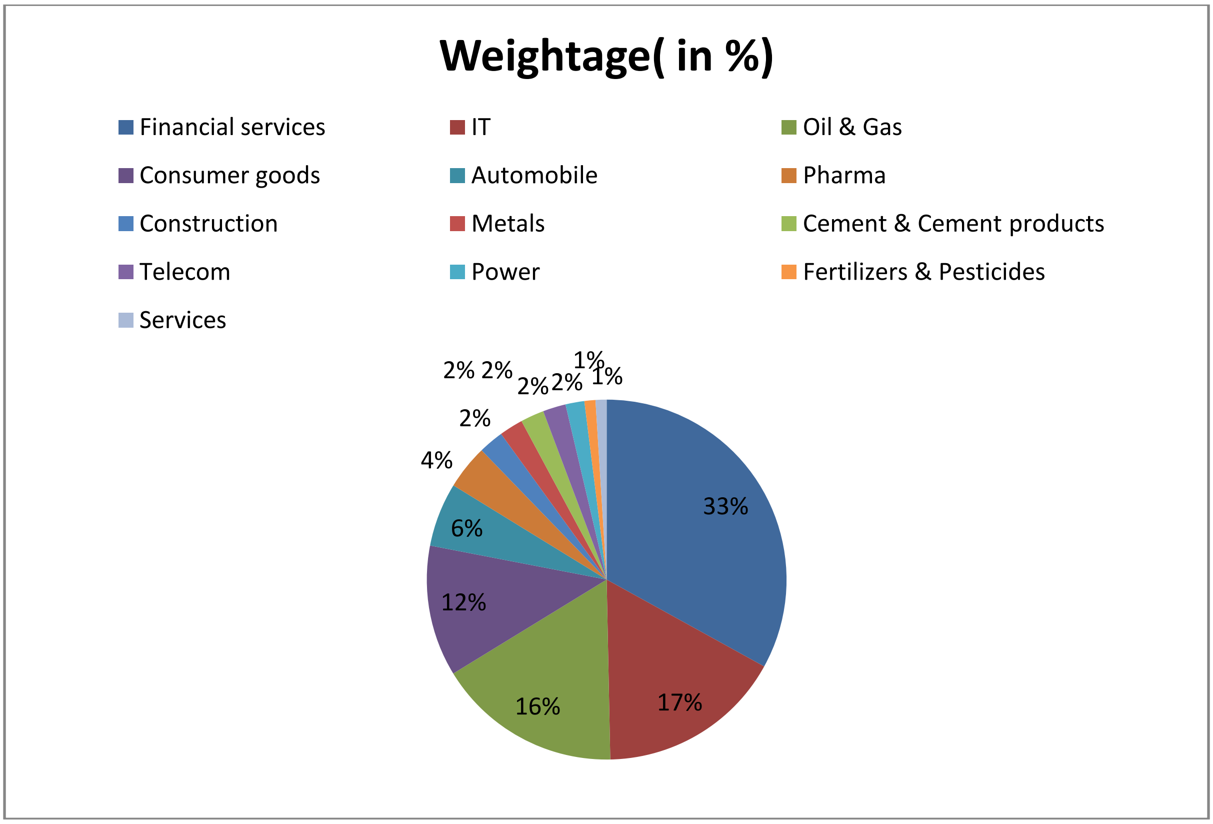
NIFTY is also known as 'National Fifty' or 'CNX 50'**. Nifty** is the stock market index for the National Stock Exchange (NSE). It is one of the two main stock indices used in India, other than BSE SENSEX. NIFTY is a benchmark index for the Indian stock market. It is the performance indicator of the NSE and acts as the barometer of Indian Capital markets to understand the performance of stocks. It represents the weighted average of 50 stocks of the largest Indian companies listed on the National Stock Exchange. Nifty 50 is owned and managed by NSE Indices (previously known as India Index Services & Products Limited).The Nifty 50 index was launched on 22 April 1996.The Nifty 50 covers the major sectors of the Indian economy and offers investment managers the exposure to the Indian market in one efficient portfolio.

When you buy Nifty future, it means you have invested in 50 company's shares which are collectively representing the Nifty Index. It is automatic diversification of investment in 50 stocks. In simpler words, let us take an example of fuel indicator of a car. When the fuel Indicator is in the red zone, you understand that your fuel tank is about to get empty and it needs to be refilled or else your car will stop running. In the similar manner, when the fuel indicator is in green zone, then any further refill of fuel will spill out from the tank. Similarly, Nifty Index comprises of 50 companies which are considered to be the nation's best stocks. All the companies which are part of Nifty 50 contributes some weightage to the Nifty Index and its fall and rise in stock price indicates the condition of our economy.

Nifty 50 comprises of 50 stocks of different sectors. The following are the sectors which are included in Nifty 50 are:

- Nifty Auto Index:The Nifty Auto Index is designed in such a way that it reflects the behavior and performance of the Automobiles sector. Automobile sector includes the manufacture of motorcycles and cars, auto ancillaries, heavy vehicles, and tyres, etc. National Stock Exchange comprises of 15 stocks of Nifty Auto index that are listed on Stock Exchange. The base rate for this index is taken as 1stJan 2004.
- Nifty Financial Service Index**:** The Nifty Financial Service Index comprises of large capitalized and most liquid Banking stocks of India, financial institutions, housing finance, etc. It provides a benchmark to the market intermediaries, speculators and investors that captures the capital market performance of Indian banking stocks. The index comprises of 20 stocks from the financial service sector that are traded on the National Stock Exchange.
- Nifty FMCG Index: The Nifty FMCG index aims to reflects the behavior of FastMoving Consumer Goods (FMCG). It comprises of 15 companies that are listed on National Stock Exchange who manufactures those goods and products, which are nondurable, mass consumption products and available off the shelf.

- Nifty IT Index: Information Technology plays a major role in Indian economy. IISL has developedthe Nifty IT sector. Nifty IT acts as appropriate benchmark that captures the performance of the IT segment of the market which provides the information to the market intermediaries and investors. This index includes only those stocks that have a turnover of 50%. It includes the companies that are engaged in IT related like IT Infrastructure , IT Education and Software Training , Telecommunication Services and Networking Infrastructure, Software Development, Hardware Manufacturer's, Vending, Support and Maintenance. 20 companies are included in this index. On 28th May,2004 the base value of the index is revised from 1000 to 100.
- NIFTY Power Index: The Nifty Power index is designed in such a way that it reflects the behavior and performance of companies that represents the stocks of Power sector. This index comprises of maximum of 2 stocks. Weights of each stock of this index are calculated on the basis of free-float market capitalization method. While calculating it takes into the consideration that no single stock should weigh more than 33% and at the time of rebalancing top 3 stocks cumulatively should not be more than 62%.
- NIFTY Pharma Index: Besides Software, Pharma sector is one of the key sectors of Indian companies that has created a global presence. This Index is developed by IISL to capture the performance of the companies in this sector. This Index is designed to reflect the behavior and performance of the companies that are engaged into manufacturing of pharmaceuticals. The index comprises of maximum of 10 stocks.
- Nifty Oil & Gas Index: The Nifty Oil & Gas index is designed to reflect the performance of stocks belonging to Oil, Gas and Petroleum industry. 15 stocks are included in this index. The base value is 1000 points and the base date for this index is 1st April,2005.
- Nifty Metal Index: This sector aims to reflect the performance and behavior of stocks belonging to metal sector including mining. It comprises of 15 stocks that are listed on National Stock Exchange.
- Nifty Realty Index: In India, Real estate sector is witnessing a significant growth resulting in prominent growth in public funds and private equity and creation of wealth by listing of real estate companies in stock exchange. Hence, nifty realty index is designed. This index represents the stocks belonging to construction of residential and commercial real estate properties. This index comprises of maximum of 10 stocks.
- Nifty Telecom Index: The Nifty Telecom index aims to reflect the behavior and performance of stocks of companies belonging to Telecom. Operating revenue should be more than 50% to be eligible to get included in this index.
- Nifty Cement & Cement products Index: This index is designed in such a way that it reflects the behavior and performance of stocks of those of companies that belongs to Cement and Cement product.
- Nifty Fertilizers & Pesticides: This index is designed in such a way that it reflects the behavior and performance of stocks of those companies that belongs to Fertilizers & Pesticides.
- Nifty Services: This index aims to reflect the behavior and performance of stocks of Service companies.



Need for the study:
The main aim of this research paper is to provide information regarding the performance of 'Nifty' to the present and prospective investors/traders to base their decisions with respect of Investments in stock market.

Objectives of the study:
- To aim at better understanding of 'Nifty' in terms of functioning and performance in Indian stock market.
- To interpret the reasons, why 'Nifty' is widely tracked and treated as one of the benchmark in Indian Stock Exchange.
- To understand how 'Nifty' is constructed and calculated.
- To interpret and analyze the reasons for the major highs and lows in Nifty.

Research Methodology:
The Data is collected from secondary source. The secondary Source comprises of books, and data-mining (exploring data through internet).

Why Nifty is used?
- **Sorting:** Many companies are listed on stock market and it is very difficult for the investor to differentiate between them, sort them and to buy one or two stocks. This is where nifty helps the investor. It helps to us to know how the companies are classified based on key characteristics like size of company, sector or industry they belong to.
- **Representation:** Nifty is considered as the benchmark index for National stock exchange (NSE) in India. It acts as a representative of entire stock market and represents the overall market performance.
- **Comparison:** Nifty helps the investor to take decision regarding investment in stocks by comparing the performance of set of stocks against benchmark and to select the best stock for investment. For example to find out the equity which has outperformed the market, we can simply compare the price trends/ movements of the index and the stock.
- **Reflection:** Investors sentiment is very crucial aspect in stock market movement. This is because, if the investor's sentiment is positive, there will be demand for a stock and which will further lead to increase in prices and in case of negative sentiment it is vice versa. It is very difficult to find investor sentiment correctly. Nifty helps to determine investor's mood, not only the overall market performance, but also sector wise and across

various companies. We can simply compare with the benchmark to ascertain if the stocks have underperformed or outperformed and this reflects investor sentiment.

- **Passive Investment**: Many investors prefer to invest in those securities that are closely comparable to an index and this kind of investment is known as passive investment. Nifty comprises of various securities of different segments/sectors. By using Nifty, investors can cut down the cost of research and equity selection process. For example, if nifty gave 5% of returns in 3 months, an investor’s portfolio that reflects the nifty is also likely to get the same amount of returns.

How Nifty is constructed?

- Only the companies that are listed on the NSE can be included in the Nifty index. Foreign companies which are domiciled in other countries cannot be included in the Nifty index.
- The stocks that are selected for the Nifty represents the key sectors driving economic growth in India.
- Nifty index includes only high liquid stocks and the liquidity is measured by the impact cost. For instance when stock is purchased, the impact price should be less than 0.50% for a trade worth of Rs. 10 crores.
- The stocks which are selected for Nifty index should be traded on all the trading days.
- Nifty is calculated based on free-float market capitalization method.
- IPO’s which are to be traded on NSE are also eligible for inclusion in the Nifty index within 3 months only after meeting specific criteria with respect to free-float market capitalization and liquidity.
- The companies with a large market capital will have a huge impact on the index rather than the companies with smaller market capital. For instance, RIL will have a bigger impact on Nifty than Sun Pharma.
- If any company which is included in the nifty index announces a bonus issue, rights issue or a stock split then the index will also be proportionately adjusts the corporate action to the extent of the proportion changed to make the impact neutral. Hence, Nifty index is corporate-action neutral.
- An Index committee is setup to make decision regarding reconstruction of index like addition and deletion of companies from the index.

How is Nifty calculated?

Nifty is calculated by using the free float market capitalization weighted method. The level of index represents the total market value of the stocks relative to a particular base period.

Index Value = (Index Market Capitalization / Base Free Float Market Capitalization of index) * Base Index Value

Where, Index Market Capitalization = Shares outstanding * IWF * Capping factor * Price

• IWF = 1 in case of indices computed based on full market capitalization method

• Capping factor = 1 in case of uncapped indices

where Index market capitalization is the aggregate of market capitalization of each scrip in the Index adjusted for free float and/or capping factor depending upon the methodology; and Base index value is the initial value assigned to each index (For example 1000 or 100).

Investible Weight Factor (IWF) is a factor which is used to determine the number of shares available for trading freely in the market. The value of scrip changes daily, hence the index is determined on real-time basis.

Note: For calculating Nifty 50 index the base period is selected as 1995, 1000 as base value and the base capital at Rs. 2.06 trillion.

Understanding Nifty trend movements

As we know that Nifty is the one of the indicator of market movement, it shows how the stocks in India are performing during that given period.

- If Nifty goes up/ increasing, then it means that the stock price of significant stocks on NSE has gone up and it shows the economic growth of the country.
- If the Nifty goes down/ declining, it means that the stock price of significant stocks on NSE has gone down and there is a slow down/ depression in country’s economy.

Importance of Nifty:

- Nifty is considered as a barometer for the market behavior as it gives a general idea whether the most of the stocks have gone up or gone down.
- It is used as a benchmark of portfolio performance.
- It is used as a reflector of investor sentiments.
- It helps in sorting and comparison of the various companies.
- They act as an underlying for Index funds, Index futures and Options.
- They are used by Index funds for passive fund management.

- It provides a comparison of returns on investments in stock markets as opposed to various asset classes such as gold or debt.

Technical Analysis
Important Terms:

- **Moving Average:** A simple moving average is formed by computing the average (mean) price of a security over a specified number of periods. It places equal value on every price for the time spans elected.
- **Fractals:** Fractals are composed of five or more bars. The rules for identifying fractals are as follows:
  - A bearish turning point occurs when there is a pattern with the highest high in the middle and two lower highs on each side.
  - A bullish turning point occurs when there is a pattern with the lowest low in the middle and two higher lows on each side.
- **Bollinger Bands:** It consists of a 21-period simple moving average with upper and lower bands. The upper band is 3 standard deviation above the moving average and similarly lower band is 3 standard deviation below the moving average. This makes these bands more dynamic and adaptive to volatility.
- **Relative Strength Index (RSI):** RSI is a momentum oscillator generally used in sideways or ranging markets where the price moves between support and resistance levels. Generally, technical analysts use 30% oversold and 70% overbought lines to generate the buy and sell signals. Go long when the indicator moves from below to above the oversold line. Go short when the indicator moves from above to below the overbought line.
- **Average Directional Movement Index (ADX):** ADX is a trend-following indicator and is based on the concept of directional movement. A rising ADX indicates significant directional movement and the beginning of a good trading period. The declining ADX is shown during a poor period for trend following. Normally, an ADX Indicator above 25 signals significant directional movement and good trading.
- **Ascending Triangle:** One of a class of Area Patterns called Right-Angle Triangles. The class is distinguished by the fact that one of the two boundary lines is practically horizontal, whereas the other slants toward it. If the top line is horizontal and the lower slants upward to an intersection point to the right, the resulting Area Pattern is called Ascending Triangle. The implication is Bullish, with the expectant breakout through the horizontal line. Measuring Formula: add the broadest part of triangle to the breakout point.
- **Triple top Pattern:** A triple top formation is simply a double retest of a prior resistance level and a triple bottom is a double retest of a prior support level. A triple top is a bearish reversal formation, whereas a triple bottom is a bullish reversal formation. At triple top formation is completed once the lowest trough between the first and last peak in a triple top formation is violated.

Coming to behavior and trend of nifty over years, it has been bullish all the time with retracements and minor bearish falls. Also, if we see the charts from the major 2008 to another major 2020 corona crisis, there was a steep fall and a gradual rise in the price levels.

Source: investing.com
Monthly candle with ranging from 2005 to Oct 2020.

Findings:

- Technically seeing, we can find that in 2008 there is a huge fall due to economic crisis. Nifty went back to 2005 price levels which is about 3 years back. This is one of the major and first crisis in the history of Nifty.
- The then Indian government and RBI have come to rescue the economy by upgrading the economic reforms and various measures have been taken to uplift it.
- After the fall of 2008, we can see the consolidation happening until 2008-09 fiscal year end. From 2009-10 fiscal year we can see a raise and it gives "Cup" pattern and immediate effect can be seen in the second half of 2009-10. This provides a clear idea of how well the economy is fighting back the crisis.
- In 2015, we can see a fall which is due to global selloffs in China and other major indices. The earlier strength which we gained during economic crisis helped this time and a quick rebound has happened.

Let us see a clear image of how exactly nifty behaved during the economic crisis in 2008.

Source: investing.com

Findings:

- In the technical chart, we can see that after the great economic crisis in 2008 there is a gradual increase.
- We can see that it took around 5 years (2009-2014) to form a bullish pattern which includes "ascending triangle pattern". As it is consolidated till 2014, it also touched 2008 price levels twice i.e., at "B" point and at "D" point. 2008 price level acted as resistance line at these two points.
- At the point "B", the nifty does not have enough volume to break the 2008 resistance level. Even the "ADX" shows that there is no strength to break the resistance line at this point.
- After enough consolidation over the period and volumes, it managed to break the resistance level at point "D" by forming a perfect ascending triangle pattern and then it rose to newer highs.
- Hence, we can see that Nifty for sure has the capacity to face a global level crisis and withstand against it.

Let us see a clear image of how exactly nifty behaved during the pandemic in the year 2020.

Source: investing.com

Findings:

- Technically viewing the chart, we can see that consolidation has started from 2018 and continued till early days of 2020.
- From second half of 2019 to early 2020, we can see that there is a gradual increase in volumes which gives bullish view but at the same time RSI was a bit flat and ADX was completely decreasing giving us bearish view.
- A sudden spike and global lock down in March 2020, had triggered domination of bears over the world markets including nifty.
- After the historic fall of nifty, the price levels went back to 2016-17 which is not good for a developing economy.
- Nifty had formed triple top pattern as seen in the above picture which is a major reversal pattern.
- Triple top pattern, consolidation with weak ADX, global pandemic all together caused nifty to fall drastically.
- Like 2008 economic crisis, Nifty got ready to bounce back to higher levels as soon as lock downs were slowly disappearing.
- As seen in the graph, Nifty had easily broken the first resistance line at around 10,000. It is considered as first positive signal from nifty that it had the strength to rebound. This is where we must start investing as we got a strong signal.
- After breaking the first resistance level, Nifty had managed to continue to go upwards and bounce back to early 2020 levels which is a good sign. After the 10,000 level, the volumes became very low and ADX started going down which triggers a bad sign.

II. Suggestion & Conclusion:

Indian Economy is considered as one of the fastest growing economy in the world. It is witnessing enormous changes in no time and the Indian Stock market is also not an exception too. Over a period of time, Investment patterns have changed to many leaps and bonds. Most of the investors prefer stock market as the best investment option and they expect huge returns in a very short run. No doubt, the stock markets can yield good returns, but they are associated with various types of risks. Stock markets are considered as an attractive investment option in spite of its inherent risks. The investors need to focus on those aspects where they can mitigate risks. Hence, most of the investors and financial analysts use 'Nifty' to track the market as 'Nifty' acts as a benchmark for Indian stock market. Nifty is widely used to predict the future price movements by analyzing the past trends. All the positive and negative aspects like National Income, Export rates, GDP, Inflation rate, natural and man-made disasters, etc can be traced with the help of this index as it represents the Indian stock market. In our study we could see that there is much volatility during 2008, 2015 and 2020. In the nutshell, we would like to conclude by saying that

- With reference to a pandemic in the year 2020, it is advisable for the

DOI: 10.9790/487X-2210082431

- Existing stockholders to continue to hold Nifty,
- Prospective Investors who would like to invest can also invest in the Nifty,

- The stockholders must check the scenario near the triple top upper line which is acting as resistance line i.e., at 12,000 price levels and move accordingly. If the scenario is bearish and ADX is lacking strength it would be better to exit or else can continue for further levels ideally up to the upper level of Bollinger Band.
- Also, for more accuracy we suggest you to regularly check the strength of the up-trend line which is drawn from the drastic fall in Mar 2020 to subsequent months. If the line indicates a flattening out scenario, it's better to exit the market and vice versa.

References:

[1]. https://www1.nseindia.com/global/content/about_us/about_us.htm
[2]. https://www.motilaloswal.com/
[3]. https://www.karvyonline.com/
[4]. https://www.investing.com/
[5]. https://www.investopedia.com/
[6]. The Handbook of Technical Analysis – Mark Andrew Lim
[7]. Technical Analysis of Stock Trends, Eleventh Edition – Routledge Taylor & Francis Group
[8]. Technical Analysis Module – NCFM (NSE's Certification in Financial Markets)

Pooja Sree Pombarla, et. al. "A Detailed study on India's premier Index- Nifty."*IOSR Journal of Business and Management (IOSR-JBM)*, 22(10), 2020, pp. 24-31.