

# The Elliott Wave Principle and its Applications in Security Analysis

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## Abstract

The study is determined on an analysis and pattern recognition of equity or share price, which are fractal in nature. Elliott waves are considered as the crowded psychological effect. The wave principle used by trader or investor to evaluate market cycle and forecast the future trend of market by identifying the waves with price movement of market. The share price fluctuations are due to several economic and non-economic factors. Among the developing countries, India has received considerable capital inflows in recent years. This study is basically aimed at ascertaining the behavior of stock price follow the Elliott wave rules. This study analyses the equity stock fluctuations of India and relates it with the structure of Elliott waves. Elliott wave measures the trend's strength and predicting trends reversal of given share price in future. This study will help the technical analyst know the behavior of share prices.

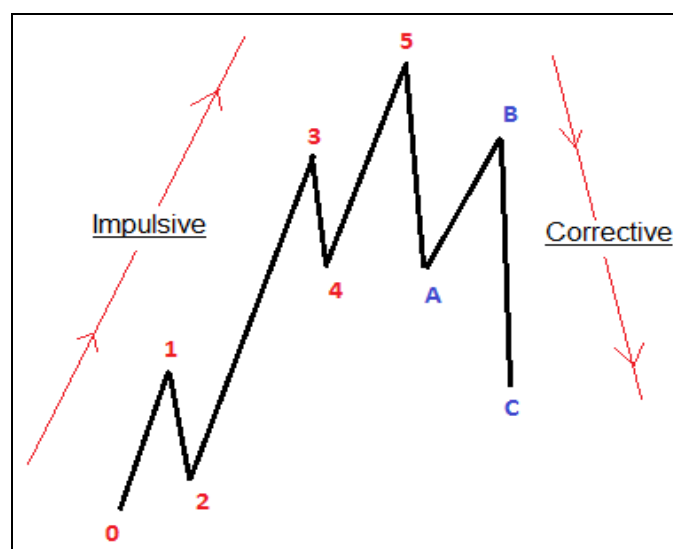
**Keywords:** Corrective wave, Elliot wave, Fibonacci ratios, Fibonacci retracement, impulsive wave, stock market

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## INTRODUCTION

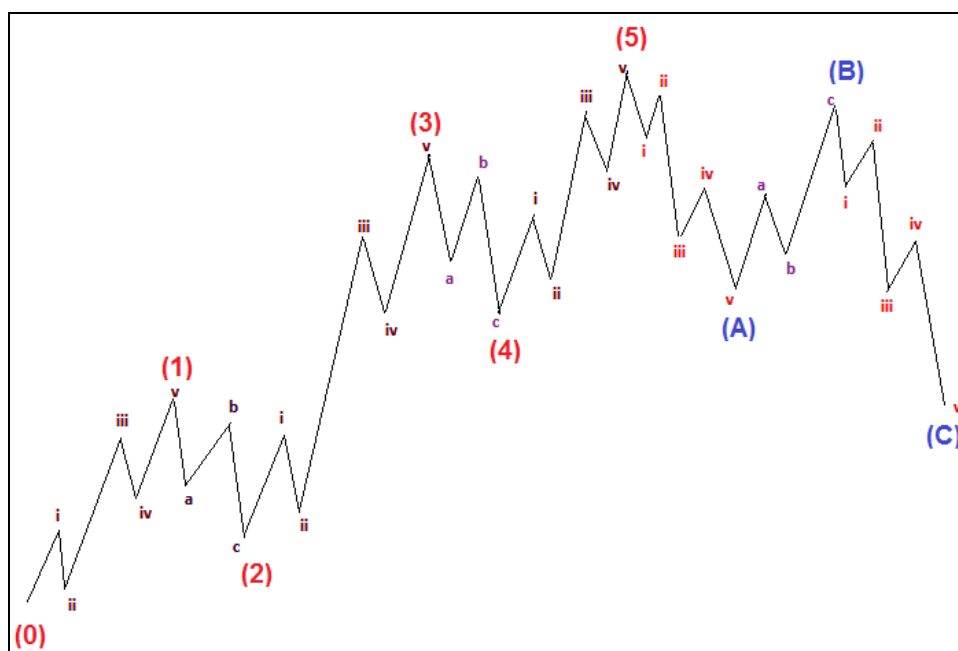
The wave principle is founded by Ralph Nelson Elliott [1–5]; which is used to identify social or crowd, behavior trends and reverses in recognizable patterns [6]. R.N. Elliott analyzed that every financial instrument like stocks, currency, commodities are moving in

some regular pattern and called it wave's cycles. As shown in Figure 1 that wave formation containing of 5 waves in the direction of primary/impulsive wave marked as 1, 2, 3, 4 and 5. It followed by three waves in reverse direction of main trend which is called as corrective waves marked as A, B and C.



**Fig. 1:** Elliott Wave structure [2].

Source: Frost, Alfred John, and Robert Rougelot Prechter, (2005) *Elliott Wave Principle: key to Market Behavior*. Elliott Wave International.



**Fig. 2: Elliott Wave with its Inner Wave Structure.**

Source: Steven, P. "Applying Elliott wave theory profitably." (2003).

As shown in Figure 2, inner wave marked as 1, 3 and 5 are also impulsive wave of smaller degree. So, the wave 1, wave 3 and wave 5 are parts of impulsive wave in upward direction. Either one of these three waves are extended and containing inner five wave structure. Wave 2 and 4 are corrective waves of lower degree and they are in reverse direction of main trend noted as Wave A, B and C in following figure. Bigger impulsive wave consists of 3 impulsive and 2 corrective forms. Within correctives wave, wave A and C are impulsive of lowest degree. It also consists of 5 inner waves. B is corrective of smallest degree and it followed 3 inner waves (name as wave A, B and C) [2].

### ELLIOTT WAVE PERSONALITY

Each wave either impulsive or corrective wave has its own signature or personalities which are defined as follows [7, 8]. Figure 1 shows five impulsive trend pattern and three corrective trend pattern.

*Wave 1:* Wave have not any specific characteristic and so have very less importance in calculations. The last trend considered is still continue. The crowd sentiments are decidedly bearish and strongly bearish if it is happened just after a long recession trend. It progresses very silently and consistently and try to make base as majority of investor are not

so confident to generate new position After long down movement, it might be complete in weeks or months.

*Wave 2:* When R.N. Elliott discovered this principle at that time markets were not so aggressive, there was very simple rule or phenomena, "Buying at lower price and selling at higher price". The minority investors and traders actually apply this rule [2]. The wave 2 beginning after wave 1 when investors are in mood of profit booking. This wave is corrective in nature and against the main long-term trend. It is not extended beyond the wave 1. In normal case, it corrects up to the 61% or 76.4% of wave 1. In some of the case, it extends up to 99% of the wave 1. Because of good macroeconomic factors and other positive sentiments, there is a strong bull market. In this case, this wave is not correct more than 50% of the wave 1 but it gives time wise correction means price is not going down, but it is a consolidation mode which consumes the time before moving in line with main trend line. There are various kinds of corrective wave like zig zag pattern, flat, double three and most complex irregular patterns.

*Wave 3:* This wave is very important because it covers more price length in main trend than any other impulsive wave. The time taken by this wave is also shorter than other impulsive

wave. This wave 3 is usually sharper and faster of any waves with formation of gaps in. In mid-point of wave 3, the people also make position to take benefit of it [4]. Wave 3 is usually bigger wave in length than any other wave. It normally exceeds at least 1.618 Fibonacci extension of wave 1 and go beyond up to 2.618 Fibonacci extension of wave 1 and even go more. The main rule to correctly identify this wave is that wave is not being the shortest one.

**Wave 4:** Wave 4 is clearly corrective in nature. The wave is normally retrace by 38.2% or 23.6% of wave 3. This wave is often frustrating because progress is lacking in main trend. Main principle is that this wave is not overlap with the wave 1 at any point of time. Like wave 2, there are various kinds of corrective wave like zig-zag pattern, flat, double three and most complex irregular patterns. As per the rule of alternation, wave 4 and wave 2 did not have a same structure. If wave 2 is retrace more in price wise, then wave 4 is shallow wave means it will not give price wise correction and will simply give time wise correction and vice versa.

**Wave 5:** The new amatured investors who are now convinced that we are in bull run, they drive this wave further in main trend direction. It is final leg in dominant trend. The news of all in all is very optimist and many momentum indicators like RSI, MACD are start showing divergences.

The last inner wave of big 5 wave is usually ending diagonal which is leading indicator for the correction.

**Wave A:** This wave is very complex to identify at the beginning. This is impulsive nature means have characteristic of wave 3 or wave 5. The news flow is still positive when wave A is in bear market. Wave A is normally retraced up to 50% to 61.8% of wave 5.

**Wave B:** This wave is retracement of wave A and no longer wave compare to wave A. The wave B is also shorter in time wise fashion. The wave B is correct the wave A by 38% to 138% in value. In normal scenario, Wave. B can be bigger than wave A.

**Wave C:** This wave C is very important wave for traders and investors. The price is moving impulsively in lower direction against 1-5 dominant wave. This Wave C normally

retraces 100-123% of wave A. But, in most of the cases, this wave can extend till 261% of wave A [4].

### Elliott Wave Rules

Though Elliott wave follow many rules but three basic rules are followed by each wave to interpret Elliott wave. These guidelines are unbreakable. These rules are as follow:

- **Rule 1:** Wave 2 is not retracted more than 100% of wave 1.
- **Rule 2:** Wave 3 can never be the shortest wave among the 5 waves of impulse.
- **Rule 3:** Wave 4 cannot touch Wave 1 [9].

### FIBONACCI RATIOS

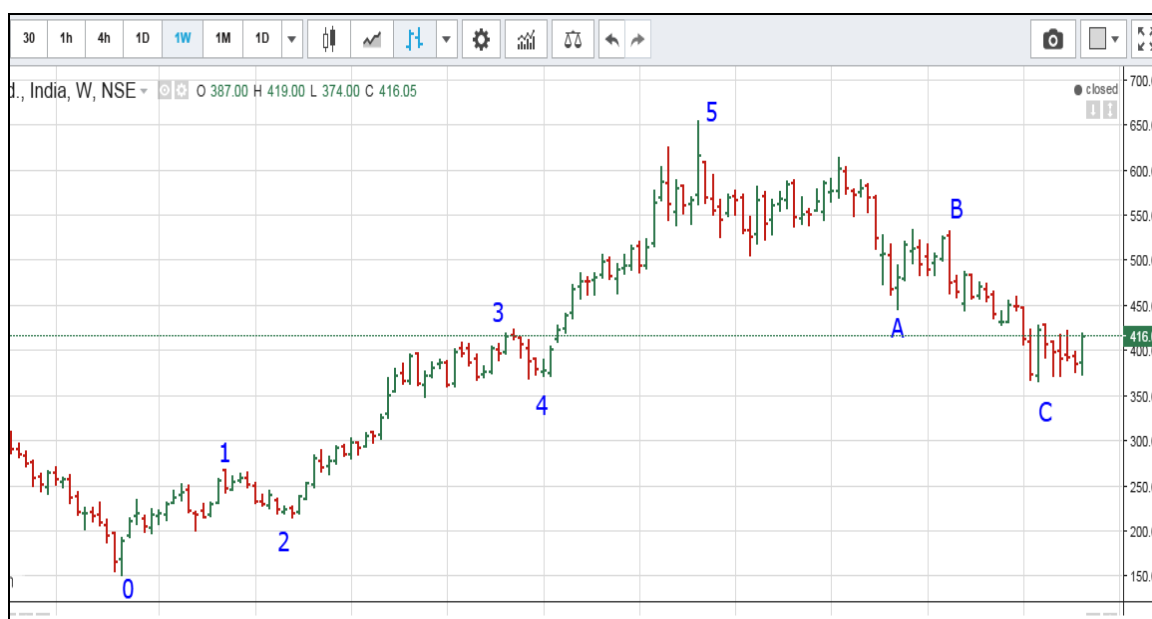
Counting of Elliott wave will be completed by using Fibonacci ratios. The ratios are computed from series of Fibonacci numbers. The rules to find the new number is simply addition of previous two number so, Fibonacci series is like 1,1,2,3,5,8,13,21... Fibonacci ratios are computed by dividing number in series with its previous numbers. The ratios used in Elliott wave analysis are 38.2%, 50%,61.8%, 100%, 138.2% ,161.8%, 261.8% and many more [10,11,12].

Generally following Fibonacci ratios are followed by each Elliott waves:

- Wave 2 is corrected by wave 1 about 50% to 100%.
- Wave 3 is stepped wave in given impulse wave so, its value is about 161.8% of wave 1. In extended wave 3, its value is about 261.8% of wave 1 [13].
- Wave 4 is usually 38.2% of wave 3. As per rule called "rule of alternation", wave 4 follows different structure than wave 2. If wave 2 is simple zig-zag structure, then wave 4 is complex structure and vice versa.
- Wave 5 is usually computed by taking 38.2% measure or a 61.8% measure of wave 3. If wave 3 had extended, then usually wave 5 to be equal to wave 1.
- Usually, wave C is 161.8% of wave A in zigzag correction [14].
- In flat correction, wave C is often equal to wave A. Wave C is not bigger than 138.2% of wave A.



**Fig. 3:** Elliott Wave Count for Adani Port and Special Economic Zone Shares (Weekly Chart).  
 Source: Stock charts Available: [www.in.investing.com](http://www.in.investing.com).



**Fig. 4:** Elliott Wave Count for Axis Bank Share (Weekly Chart).  
 Source: Stock charts Available: [www.in.investing.com](http://www.in.investing.com).

**RESULTS AND DISCUSSION**

Every financial instrument follows the Elliott wave principles. Here we take some of the equities of Indian financial market to represent it in same context.

As shown in Figure 3, wave 1 was started at 102 and ended at 177, then wave 2 was corrected up to 118 price which was above then starting of wave 1. Wave 2 corrected 61.8% of wave 1. Wave 3 was then most powerful wave

in up direction which touch to 306. Wave 3 is 261.8% of wave 1. Wave 4 was then retraced to 246 values. Wave 5 which is final wave in impulsive wave goes up to 377. Then major trend is reversed which is noted by wave A, B and C in chart. Wave A was corrected up to 289 level. Then wave B came up to 338. Then wave C which was highly extended wave came up to 169 values. The wave C has 5 wave impulse structure in down direction. Then new impulsive up wave is started in up direction.



**Fig. 5: Elliott Wave Count for Tata Motor Share (Weekly Chart).**

Source: Stock charts Available: [www.in.investing.com](http://www.in.investing.com).

As shown in Figure 4, Axis bank's wave 1 ends at 273 which was started at 147, then wave 2 was corrected up to 208 prices. Wave 2 is only 38.2% of corrected wave 1. Wave 3 went up to 419. Wave 4 was then retraced to 366 values. Wave 5 which was final wave in impulsive wave goes up to 654. Then major trend was reversed. Wave A was corrected up to 418 level. Then wave B went up to 550. Then Wave C made a new low of 364 values. Its followed zig-zag correction with wave C had same value of Wave A.

On weekly chart, Tata motor wave 1 started at 40. Wave 1 reached to 276, then wave 2 was corrected up to 141. Extended wave 3 reached up to 607. Internal wave 3 is also subdivided into five impulsive waves noted as w1, w2, w3, w4 and w5. Then wave 4 was corrected up to 280. Currently Tata motor is in bigger wave 5 (Figure 5).

## CONCLUSION

This Elliott wave principle was an incredible discovery of R. N. Elliott which represent mass psychology and human behavior effect on security market. Here, we have demonstrated that market direction is accurately decided using the wave principle and Fibonacci extension. In this study, we have tried and summarized some of the main principles of the Elliott wave theory.

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