

## International Journal of Innovative Research in Science, Engineering and Technology

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# Fibonacci Series & Golden Ratio in Foreign Exchange Charts

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**ABSTRACT:** In this paper we are going to discuss mathematical Fibonacci numbers or sequence which leads golden ratio. Use of Fibonacci series in Foreign Exchange Charts using Golden Ratio. The discoveries of Leonard of Pisa, better known as Fibonacci, are revolutionary contributions to the mathematical world. His best-known work is the Fibonacci sequence, in which each new number is the sum of the two numbers preceding it. When various operations and manipulations are performed on the numbers of this sequence, beautiful and incredible patterns begin to emerge.

**KEYWORDS:** Fibonacci number, Golden ratio, Pascal Triangle, Fibonacci series in Foreign Exchange Charts.

### I. INTRODUCTION

The Fibonacci sequence was invented by the Italian Leonardo Pisano Bigollo (1180-1250), who is known in mathematical history by several names: Leonardo of Pisa (Pisano means "from Pisa") and Fibonacci (which means "son of Bonacci"). The mathematician Leonardo of Pisa, better known as Fibonacci, had a significant impact on mathematics. His contributions to mathematics have intrigued and inspired people through the centuries to delve more deeply into the mathematical world. He is best known for the sequence of numbers bearing his name. As the stifling effects of the Dark Ages began to be replaced by a growing interest in the scientific world, artists, scholars, architects, scientists, and mathematicians all began making revolutionary discoveries and advances in knowledge. One such person was Leonardo of Pisa, who contributed to the transformation of the mathematical world at that time.

### II. FIBONACCI SEQUENCE OF NUMBERS

In the Fibonacci sequence of numbers, each number is the sum of the previous two numbers. Fibonacci began the sequence not with 0, 1, 1, 2, as modern mathematicians do but with 1, 1, 2, etc. He carried the calculation up to the thirteenth place (fourteenth in modern counting), that is 233, though another manuscript carries it to the next place: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, and 377. Fibonacci did not speak about the golden ratio as the limit of the ratio of consecutive numbers in this sequence.

### III. THE GOLDEN RATIO: PHI 1.618

What makes a single number so interesting that ancient Greeks, Renaissance artists, a 17<sup>th</sup> century astronomer and a 21<sup>st</sup> century novelist all would write about it? It's a number that goes by many names. This "golden" number, 1.61803399, represented by the Greek letter Phi, is known as the Golden Ratio, Golden Number, Golden Proportion, Golden Mean, Golden Section, Divine Proportion and Divine Section.

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## IV. FIBONACCI RETRACEMENT LEVELS

**0.236, 0.382, 0.500, 0.618, 0.886**

These Ratio use for Up Wave & Down Wave.

**1.000, 1.130, 1.270, 1.382, 1.618**

These are Extension levels to find possible levels.

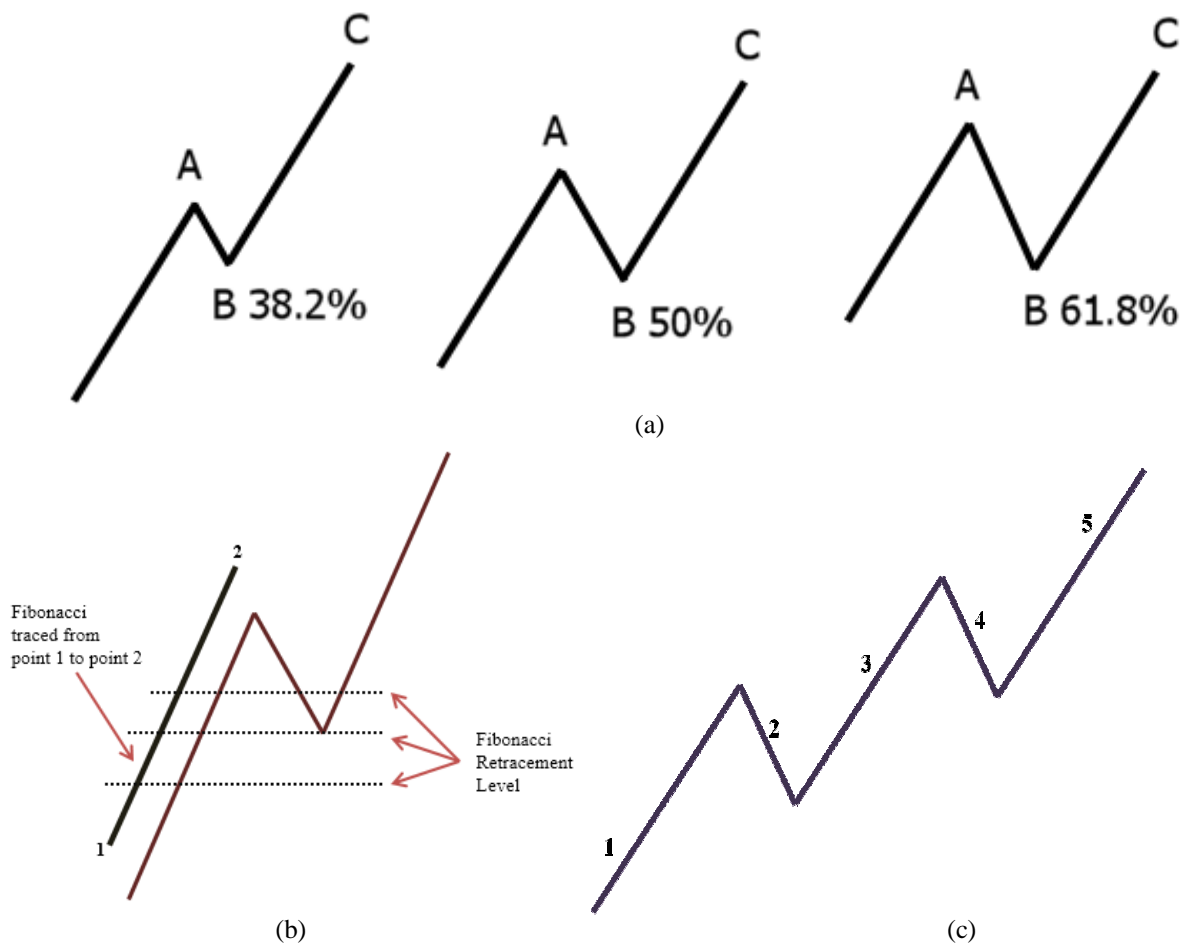
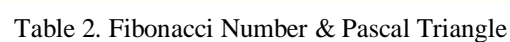


Fig. 1. Fibonacci Level: (a) Fibonacci Ratio (b) Fibonacci Retracement Level (c) Fibonacci UP Level

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Table 1. Fibonacci Number : Golden Ratio 1.618



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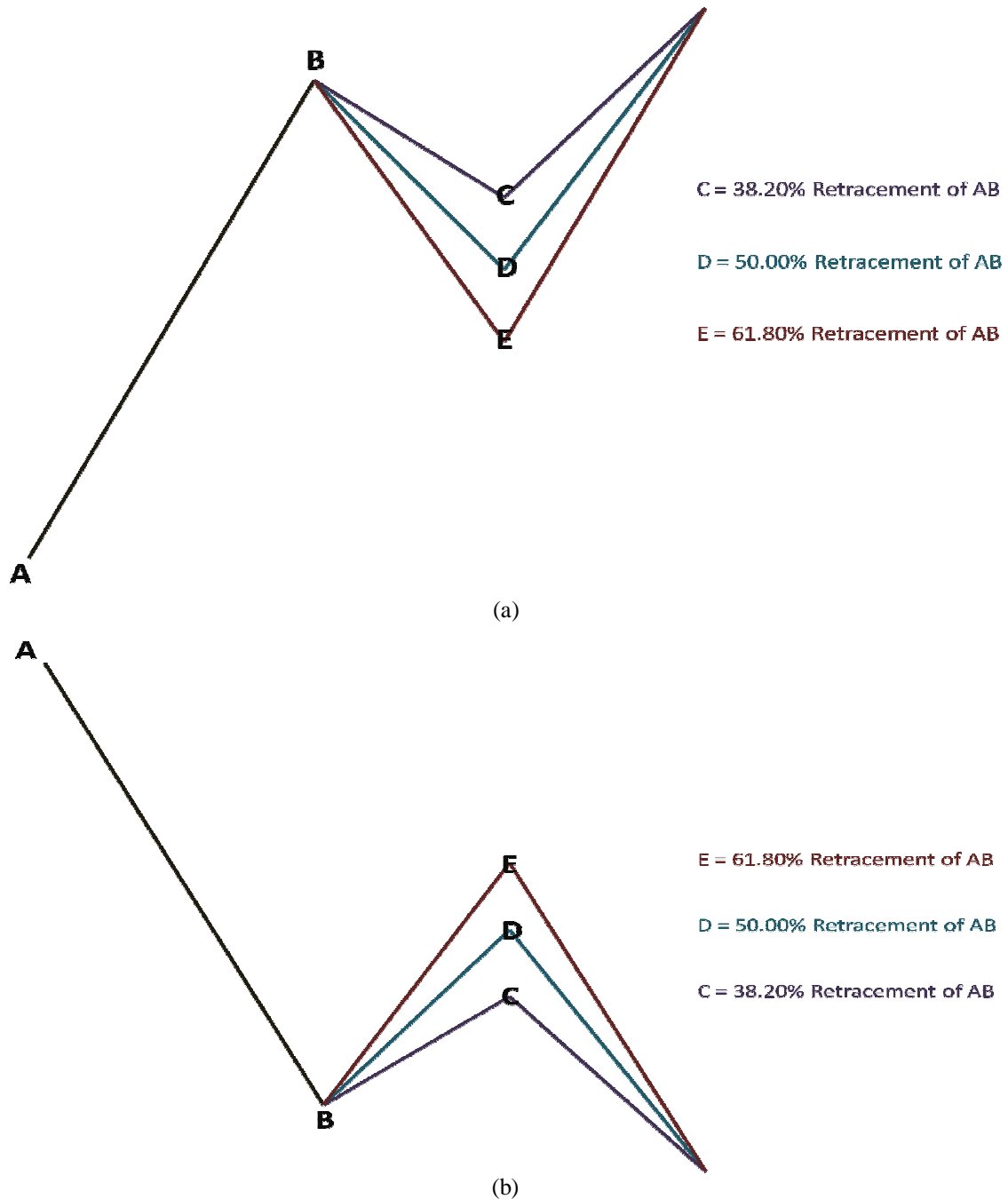
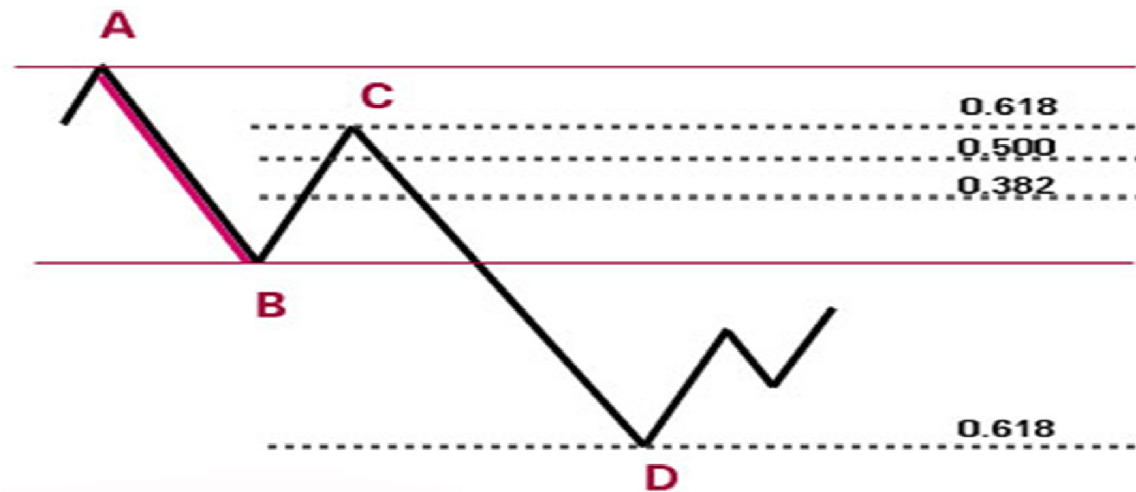


Fig. 2. (a) Fibonacci UP level (b) Fibonacci DOWN level

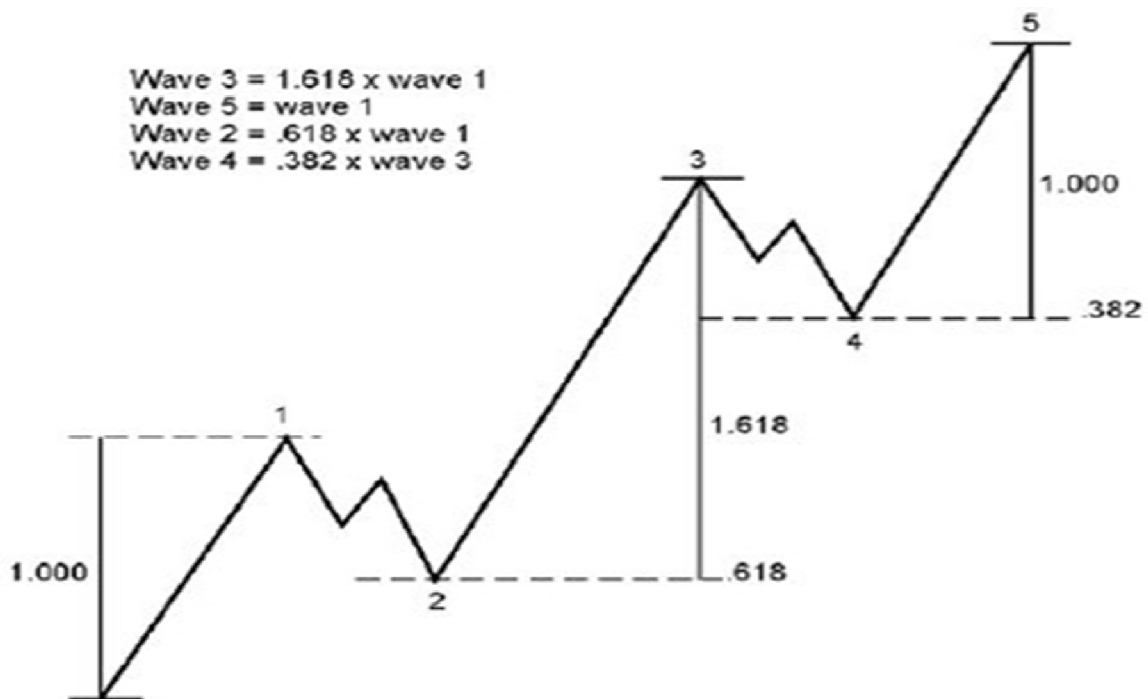
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(a)



(b)

Fig. 3. (a) Fibonacci UP & DOWN level with Ratio 0.618 (b) Waves with Ratio

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(a)



(b)

Fig. 4. (a) Fibonacci level in Foreign Exchange Chart with Swing High & Swing Low  
(b) Fibonacci level with Golden Ratio 1.618 in Foreign Exchange Chart

## V. CONCLUSION

The Fibonacci sequence appears in many Sanskrit mathematical writing. The earliest development of the sequence began as a list of long and short syllabus. Today, Fibonacci numbers are largely used to predict or recreate natural representations of mathematical ideas. The feature of this Fibonacci Series is to assume & find some results of trends in charts and can be find Up Waves, Down Waves & Extension Levels of Various Charts.

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