

FIBONACCI SUMMATION ECONOMICS PART I

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Summation series numbers appear in the differences in years between stock price cycle maxima and minima as follows: 1909 to 1920-21, 13 years; 1920-21 to 1942, 21; 1907 to 1915-16, 8; 1907 to 1928-29, 21; 1928 to 1962, 34; 1907 to 1941-42, 34; 1907 to 1962, 55; 1895-96 to 1929, 34; 1898-99 to 1932, 34; 1877 to 1932, 55; 1928 to 1949, 21; 1932 to 1937, 5; 1937 to 1942, 5; 1946 to 1949, 3, or more exactly 34 months; 1941-42 to 1962, 21; 1949 to 1962, 13; 1937-38 to 1946, 8; 1836 to 1857, 21; 1840 to 1929, 89; 1949 to 1957, 8; 1921 to 1928-29, 8; 1929 to 1932, 3 years. In addition to time, there appears to be a tendency of the movement to coincide quantitatively from troughs to peaks to the extent of the ratio between two successive Fibonacci numbers, 1.618. For example the 1957 Dow Jones low of 416 carried to the high in January 1962 of 735, a move of 319 points. The succeeding drop to 530 from 730 was 200 points. 319 is 1.618 of 200. Similarly the number of points from maxima to minima in smaller cycles have borne the same relationship, such as the decline from 1937 to 1938 was 61.8% of the advance from 1932-37, and the 1921-26 advance was 61.8% of the 1926 to the so called "orthodox" top of 1928. For a large number of similar apparent coincidences, refer to reference [1], [6]. The large quantity of apparent coincidence that is obvious to even cursory examination attracted little attention and the literature connected with it is very meager.

That Fibonacci summation series principles might be operational in economics is not difficult to imagine since it can be reasoned that it is possible for an economic state at a given time to be a function of those things which immediately preceded it, and they in turn a result of that which immediately preceded them.

The first author to derive principle from the elaborate set of coincidences was Elliot [2] between 1937 and 1947. In his original work, half of which exists in only three known copies, he describes pattern in the heretofore unintelligible movements of Dow Jones stock prices.

Primary rising trends are divided into five segments, three ascending and two descending, whereas the falling correction of that primary trend is divided into three sections, two descending, one rising. Closer examination of the component segments show that they in turn are composed of smaller subdivisions so that one of the original rising segments was itself divided into five waves, three ascending, two descending. When a falling correction of the primary rise was taking place, three components were divided in turn into five sections for those descending and three segments for the one rising. The entire movement of stock prices since their recording he divided into cycles within cycles labelled Grand Super Cycle, Super Cycle, Cycle, Primary Cycle, and Intermediate, Minor, Minute, Minuette, and Sub-Minuette, all of which conform to the five-three design already described. Elliot was able to detect these patterns because he introduced the concept of orthodox and correction tops. He described 1928 as an orthodox top and 1929 as a correction, or "blow-off" top. These corrections are of three basic types, appear to alternate in occurrence, and appear at predictable positions in a cycle.

This description of events was novel but not speculative since his work was easily checked by many and found to be correct, yet his theory that political events were a reflection of the economic cycles and not a cause of them was universally rejected. It was only after the predictions had remained valid as the world passed through depression, World War II, postwar boom, The Korean War, and final boom that the principle of a cyclical economic cause of political feeling began to be accepted.

In the discussion of corrections Elliot described movements that were triangular in form that conformed to Fibonacci sequences in both time and amplitude. For example, the movement between the high of 1928-29 to the low of 1942 was 13 years which was divided into Fibonacci segments of 1929-32, three years, 1932-37, five years, and 1937-42, five years. Each wave of the triangle was 62% of its predecessor in amplitude. When the concept of corrections is introduced the conformity becomes even more precise; for example, the bull run from 1921 to the orthodox top in 1928 lasted 89 months whereas the bull run

to the extension top of September 1929 lasted 8 years, the difference between which was the precise time length of the extension. The run from the extension top of 1929 to the bottom of the run in 1932 lasted 34 months. In his work he detected movements possessing similar summation properties in such things as new insurance writings, temperative, gold prices, epidemics, commodities, and volume of securities traded.

A number of anomalies are encountered when attempts at prediction on the basis of Elliot's original description of Fibonacci wave theory are made. Although summation time periods turn up with frequent occurrence it is difficult to predict which one will turn up at a given time. In addition, there is as yet no indication whether these time periods will produce bottoms to tops, bottoms to bottoms, tops to tops, or tops to bottoms. Investigation of the reasons for these apparent limitations could lead to information that is not already understood.

Despite the limited publicity of Elliot's work, its importance came to the attention of one who was later to become the world authority on bank credit analysis, A. Hamilton Bolton, of Montreal, who in 1960 published a review and critical appraisal of Elliot's work. Bolton, aided by the events of the intervening years, expanded the work as far as logic could carry it, and there the matter rested like astronomy awaiting Brahe and Kepler. It did not have long to wait, for simultaneously Edward Dewey of the Foundation for the Study of Cycles at the University of Pittsburgh was gradually assembling his monumental work.

REFERENCES

1. Elliot, R. N. The Wave Principle, New York
2. Elliot, R. N. Letters to Subscribers from 1937 to 1946.
3. Elliot, R. N. Nature's Law, New York
4. Elliot, R. N. The Wave Principle, Financial World Magazine Vol. 71, Nos. 14 to 21; Vol. 71, Nos. 24 and 26; Vol. 72, No. 5
5. Bolton, A. Hamilton The Elliot Wave Principle - A Critical Appraisal, Montreal, Canada, 1960

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