

By Solomon Budnik, © 2018

FUTURE ECONOMICS

(numerical-quantum economics theory for intl. energy monetary system)

GOLDEN RATIO AND QUANTUM QUBITS IN CAPITAL MARKETS

Abstract

The purpose of this project is to promote the advance of the **numerical-quantum economy** and its progression to reduce sovereign debt, secure prosperity and mitigate investment risks by applying new scientific methods, theories and models to analyze the current and future development of capital markets and world economies. This paper demonstrates new monetary principles, thus signifying new trends in capital economics with integrated mathematics and physics, enabling to predict the future economics based on new mechanisms described below.

Introduction

There is a special ratio that can be used to describe the proportions of everything from nature's smallest building blocks, such as atoms, to the most advanced patterns in the universe, such as unimaginably large celestial bodies. Nature relies on this innate proportion to maintain balance, but the financial markets also seem to conform to this "golden ratio."

Mathematics

Mathematicians, scientists and naturalists have known this ratio for centuries. It's derived from something known as the **Fibonacci sequence**, named after its Italian founder, Leonardo Fibonacci (whose birth is assumed to be around 1175 A.D. and death around 1250 A.D.). Each term in this sequence is simply the sum of the two preceding terms (1, 1, 2, 3, 5, 8, 13, etc.).

It is the quotient of the adjacent terms that possesses an amazing proportion, roughly 1.618, or its inverse 0.618. This proportion is known by many names: the golden ratio, the golden mean, PHI and the divine proportion, among others. This number essential since almost everything has dimensional properties that adhere to the ratio of 1.618, so it seems to have a fundamental function for the building blocks of nature.

This is also the calculating aspect and risk management in capital markets to track the money flow and buying trend. A lot of the buying and selling can be explained by this aspect of stock trading.

Behavioral Investments

There are also technical measurements that are more akin to Rorschach tests – patterns that one wants to see. One such technical metric is the Fibonacci numbers or the Golden Ratios. The concept is that nature follows a certain set of ratios. The shape of the Nautilus shell, for example, embodies the ratio. And for a good reason: the proportions echoed in the Golden Ratios deliver a certain physical strength and solidity. It is found in everything from art to architecture.

Some investors believe that these ratios can also apply to stock prices, for physical ratios map to investments and financial behaviors.

Bitcoins and Tokens Analysis, Phi and the Fibonacci Sequence

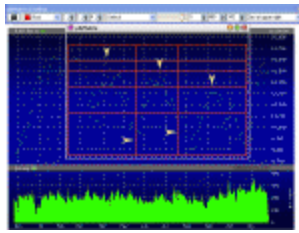
Human expectations occur in a ratio that approaches Phi.

Changes in stock prices largely reflect human opinions, valuations and expectations. A study by mathematical psychologist Vladimir Lefebvre demonstrated that humans exhibit positive and negative evaluations of the opinions they hold in a ratio that approaches phi, with 61.8% positive and 38.2% negative. Phi and Fibonacci numbers are used to predict stocks.

Phi (1.618), the Golden Mean and the numbers of the Fibonacci series (0, 1, 1, 2, 3, 5, 8 ...) have been used with great success to analyze and predict stock market moves, known as **retracements**. Forbes ASAP featured a story on the work of scientist Stephen Wolfram in cellular automata (underlying rules that determine seemingly random phenomenon) stating “This seashell may hold the secret of stock market behavior, computers that think and the future of science.”

Markets may be as geometrically perfect as a spider’s web. Ermanometry Research shows the capital markets can be perfectly patterned to create perfect geometric proportions in their circulations. Ermanometry applies the logarithmic spirals found in sea shells with dynamic ratios in 3D to relate one market move to others. Phi, or Golden Ratio, patterns often define the timing of highs and lows and price resistance points.

The golden ratio, or phi, appears frequently enough in the timing of highs and lows and price resistance points that adding this tool to technical analysis of the markets may help to identify **Fibonacci retracements**, the key turning points in price movements. The images below illustrate how the Golden Mean Gauge and Phi-based analysis software (PhiMatrix) can be used to identify these turns in the market. The middle arm of the gauge keeps the phi point of the outer arms, as the gauge is opened and closed. The lines of the phi-based software are all in phi relationship to one another. The ratios of Fibonacci numbers, commonly used in technical market analysis, converge on phi as explained on the Fibonacci Series.



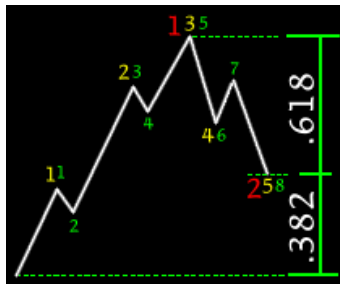
DJIA Daily Chart
from 1/2004
through 11/04
using PhiMatrix
software



DJIA Monthly Chart
from 1/2000
through 6/2003
using a Golden
Mean Gauge

Phi and Fibonacci numbers define the price movements of stocks in Elliott Wave Theory

Fibonacci numbers were used by W. D. Gann and R.N. Elliott, pioneers in technical analysis of the stock market. In Elliott Wave Theory, all major market moves are described by a five-wave series, adding to the potential to identify the turns described above. The classic Elliott Wave series consists of an initial wave up, a second wave down (often retracing 61.8% of the initial move up), then the third wave (usually the largest) up again, then another retracement, and finally the fifth wave, which would exhaust the movement. In addition, each of the major waves (1, 3, and 5) could themselves be separated into subwaves, and so on, and exhibit other Fibonacci proportions. A sample stock price wave analysis could look something like this:



Major, minor and sub waves are shown in red, yellow and green, and the total number of increases and decreases (2, 5 or 8) is a Fibonacci number. Note that the predicted end result is based in the Fibonacci series as well as the end price is 61.8% of the high and 0.618 is equal to $1/\Phi$ and 0.382 is $1/\Phi^2$.

ϕ is about 1.618. It's an irrational number that goes on forever, and is defined as:

$$\frac{1 + \sqrt{5}}{2}$$

A golden **rectangle**, whose sides are proportional to the golden ratio, is to be found throughout nature. Great composers, artists, and architects are said to have based their work upon this ratio. People have found it in the structure of DNA and the arrangement of molecules in crystals. Most famously of all, the Greek Parthenon, the preeminent icon of architecture, is said by some to be based almost entirely on the golden ratio. This ratio is believed by many to be so ubiquitous in both nature and design that it's also been called the divine proportion.

ϕ and the golden ratio are best known by their unique mathematical and geometrical properties. A rectangle, whose sides are proportional to the golden ratio, can be **split** by a square off one end of it, and the resulting small rectangle that remains is of the exact same proportions as the original. One can cut a square off of that and to get a still smaller golden ratio rectangle, and do this *ad infinitum*. Such rectangular split or cut can be applied to stocks and cryptomoney to split they value based on market condicions.

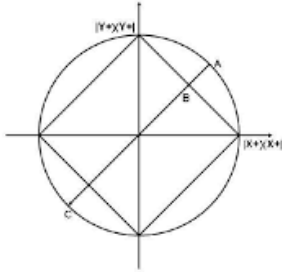
That basic geometric property can also be applied to the cryptocurrency at our new **multi-tier valuation layer** of upgraded-appreciated bitcoins and tokens traded up to infinity per applied game theory and the multi-tier level of investments where investors would progress from one tier level to another and up to the top, depending on the accumulated value of their portfolio.

The essential mathematical property of ϕ is that it is the ratio of successive numbers in the Fibonacci series. The Fibonacci series consists of values equal to the sum of the two preceding values: 1, 1, 2, 3, 5, 8, 13, 21, 34, and so on. $5+8=13$, $8+13=21$, $13+21=34$, and on and on. As this series continues infinitely, the ratio of each number to the previous one gets closer and closer to ϕ ; but as the series is infinite, it never quite gets there. So ϕ is the limit of the ratio of that sequence.

Conclusion

Our research has resulted in the formulation of the **multi-tier financial system** model that would enable the integration of investment sequences in the ratio of their monetary limits, whereby the cryptocurrencies would have their applied equivalent in major intl. currencies. We use here the term of **transitional economies** to define the new term of **transitional currencies**, whereby the national currencies would have their **dual convertible value** in ForEx and in digital currencies without the burden of paper mass circulation that leads to inflation or deflation. Thus, capital markets fluctuations could be mathematically predicted, investment risks mitigated and large financial gains secured.

In the near future, foreign currencies and cryptocurrencies would fuse, to become **convertible monetary units**. Then, state finances would be calculated in **quantum qubits** –monetary units of energy that each state would produce and consume within its energy monetization system, as per my new quantum field theory and my new theory of macroeconomics and its model of a **rectangular block of capital assets encapsulated by the perpetual monetary drive system**. See image below.



Ref.:

Multi Parameters Golden Ratio and Some Applications

Seyed Moghtada Hashemiparast, Omid Hashemiparast

Applied Mathematics Vol.2 No.7

The Golden Ratio

Csizmadia Jozsef

Journal of Modern Physics Vol.7 No.14

A Dynamic General Equilibrium Model Satisfying Golden Rule in Neoclassical Growth Theory

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