blockFrame Charting

Crypto Technical Analysis

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SÃO PAULO - OCTOBER, 2017

ABSTRACT

Constructing a blockFrame chart as a graphical representations of a series of crypto asset price movements over block heights, *-instead of time-* where the basic graphical frame is one block, and the multipliers *n* blocks used for diverse graphical chart frames.

blockframe instead of timeframe charting, for a universe -Blockchain- where objective time doesn't exist, and succession materialize only by mining new blocks.

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I. INTRODUCTION

The means of analyzing securities, *(commodity, stock, currency or crypto)* commonly to the prospect of making investment decisions; broadly divided into two main fields: 1) Technical and 2) Fundamental analysis.

 While fundamental analysis involves methods to evaluate securities by attempting to measure and estimate the intrinsic value, and while often study everything from the overall economy and industry conditions to the financial condition and management of organization or whom in charge , Technical analysis employs an entirely different approach; and instead of attempt to evaluate a financial instrument, it focuses solely on the price movements in the market by means of studying statistics generated by market activity and attempt to forecast instrument prices by the recognition of trends and patterns, and mainly through the use of charts. The field of technical analysis is based on three major assumptions:

1. The Market action *-price-* discounts everything
2. Price move in trends
3. History tends to repeat itself

In one way or another these core beliefs summarized as: "IT IS ALL IN THE CHARTS" and has it's roots back to 18th-century Japan and the use of candlestick charts on rice contracts and are a part of Dow theory [2]

II. TIME-FRAME CHARTING

Price chart are simply graphical representations of a series of price movements over time, and common denominator that price is typically on the Y-axis and time is usually on the X-axis, originally; charts were drawn by hand, nowadays most charts are computerized.

Beside the charting techniques attempt to isolate price movements from everything else -including time- like P&F[3], Kagi[4] and Renko[5] charts, and despite all fancy incrementations to chart analysis, the denomination of prices over time remain the base for all major types of charting, from OHLC (Open, High, Low and Close) Bar charts to Candlesticks[6], to most common line charts whatever on the arithmetic or logarithmic scale.

These charts use frames of time like *D* Day and *W* weekly, *M* monthly *(then H hourly and its fractions has been introduced with tick data registration)* these Time-Frames are understood and has a sounding for technical analysis in traditional finance where price data of an instrument like "Stocks" has trading hours, and periodic -*Monthly, Quarterly, Yearly*- cycles in

[2] Daw Theory: https://en.wikipedia.org/wiki/Dow_theory
[3] Point and figure chart: https://en.wikipedia.org/wiki/Point_and_figure_chart
[4] Kagi Chart: https://en.wikipedia.org/wiki/Kagi_chart
[5] Renko Chart: https://www.tradingview.com/wiki/Renko_Charts
[6] Candlesticks: https://en.wikipedia.org/wiki/Candlestick_chart

which companies expected to report particular results and where different asset classes like "commodities" has time-denominated cycles.

III.   BLOCK-FRAME CHARTING

In blockchain universe there is no time, -no objective time- in the absolute succession; but time is relativistic, it's what needed to generate and find new block, time has no particular value, the advance on this universe is about finding solution to a giving problem of cryptographic computation, that cannot *(and yet as far as of today's knowledge)* be solved in a predictable time, and yes no matter how much -objective- time is spent trying *(or not)* to find a solution, It is only when such a solution is eventually found that the blockchain's time advances by the mean of a new block of transactions is added to the blockchain.

The blockFrame technique introduced as replacement of commonly used timeframe charting which brought from technical analysis of traditional financial instruments to a universe "blockchain" where objective time doesn't exist in the distinctive sense, and the advance, progress, and succession; take place with the creation of new blocks.
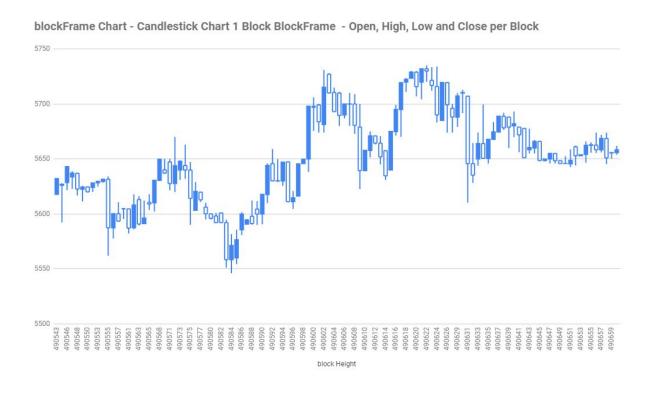
With blockFrames we're registering series of prices over blocks, a canonical expression of the price equation with block heights *(ex. Each point, bar or candle represent one block)* Open in bar or candlestick chart is the price on new block timestamp, Close is next block time-stamp, while high and low of price is during that block formation, a multiplier of this basic unit (block) would be diverse frames

The frames represented by multipliers of *n* blocks, which can be according to difficulty adjustment cycles, *-and/or even block reward halving-*, so if basic unit is one block *B* or *Block*, then the bigger frame could be *D* or *Diff* the difficulty adjustment cycle of that crypto, which in Bitcoin equivalent to 2016 *B (network difficulty change every 2016 blocks in Bitcoin)* and then the much bigger frame unit is *H* or *Halve* represent halving cycles which is 21e4 *B (block reward halving happen 210,000 blocks)* and anything in between as of diverse frames are multipliers or fractions of the basic unit of frame *B* block

For bitcoin the **B** blockframe chart is something closest to current 10min time-frame chart, the **Diff** unit is about 2 weeks, then you will have nB, 50B, 100B, 1000B etc

IV.   EXAMPLES

Disclaimer: due to a technical limitation the blockFrame chart below is build from 1min bitcoin data feed, while each candle represent a block the opening and close is not exactly the canonical price over the block timestamp but an approximation with +/- 59sec price accuracy

blockFrame Chart - Candlestick Chart 1 Block BlockFrame - Open, High, Low and Close per Block

Vs.

timeFrame Chart Candlestick Chart 10min

10 minutes timeframe