UPDATE TO THE METHODOLOGY OF
BNC-BTSE COMPOSITE INDEX (BBCX)

On **Thursday, December 19th, 2019**, BNC will update its real time pricing methodology for calculating the **BNC-BTSE COMPOSITE INDEX (BBCX)**.

The current real time pricing methodology involves the removal of maximum and minimum of midpoint prices for each market ('trimming') and subsequently calculating the average market price ('mean') for each underlying assets.

The updated pricing methodology will first apply a Price Anomaly Factor (PAF) to all midpoint prices based on the degree of deviation from the median price. The PAF is then used as a weighting factor in calculating the average market price for the underlying assets. The closer a midpoint price is to the median, the more weight it carries in calculating the market price and vice versa. Additionally a de-weighthing threshold will be introduced to ensure outliers are disqualified in the market price calculation.

These changes will make BBCX tracks more closely to the real-time market performance of the underlying assets and enhance its accuracy and robustness.

Summary of the methodology update:

	Current Methodology	**Updated Methodology**
Real Time Pricing mechanism	Once the midpoint price for each market is calculated, the maximum and minimum values are identified and removed ('trimming'). The remaining prices are then used to produce the average market price ('mean') for underlying asset c: $$P_c^{mid} = \frac{\sum_{k+1}^{N-k} P_n^{mid}}{N - 2k}$$ **Where:** N = total number of pricing sources available for constituent asset c k = the number of observations trimmed from both ends.	A median price is first identified based on the midpoint prices for each market. We then calculate the absolute deviation for each price from the median (as a % of median). The absolute deviation is converted to a Price Anomaly Factor (PAF) which is used as a weighting factor in calculating the average market price for the underlying assets: $$P_c^{mid} = \frac{\sum P_n^{mid} \times PAF_n}{\sum PAF_n}$$ **Where:** PAF_n = price anomaly factor for pricing source n. P_c^{mid} = market mid price of constituent c. P_n^{mid} = market mid price for pricing source n.

These changes will take effect on **Thursday, December 19th, 2019** at **08:00:00 UTC** and we do not anticipate and outage or disruption to the BBCX index service.

About the Brave New Coin

Brave New Coin (BNC) has been a leading provider of market data and index solutions to the cryptographic asset industry since 2014. Our focus is on transparency, timeliness and compliance, something we have been providing since 2014. The BNC-BTSE Composite Index (BBCX) tracks the real-time market performance of a basket of large cap cryptocurrencies by free float market capitalization. Launched in October 2019, this institutional-grade index product is amongst the first in the world to track multiple crypto assets across multiple pricing sources at sub second frequency.

For further information on BNC Indexes or BNC data, please visit our web site at www.bravenewcoin.com, or contact:

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