

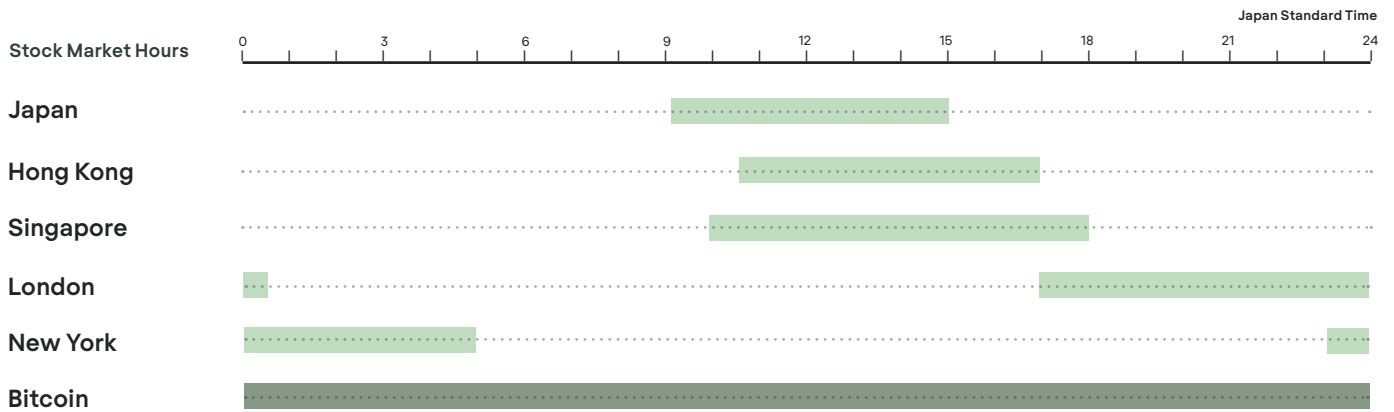


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# Across Timezones: How Does Bitcoin Correlate to Key Market Indexes & Futures?



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As global financial markets took a turn from their February highs, Bitcoin tethered its market movements very tightly to the world's largest index, the S&P 500. But with the cryptocurrency trading round the clock, all year round even, the question becomes where does Bitcoin find its market direction when Wall Street rings its closing bells. Copper takes an in-depth look with a comprehensive data study on Bitcoin correlations across global markets from Tokyo to New York.

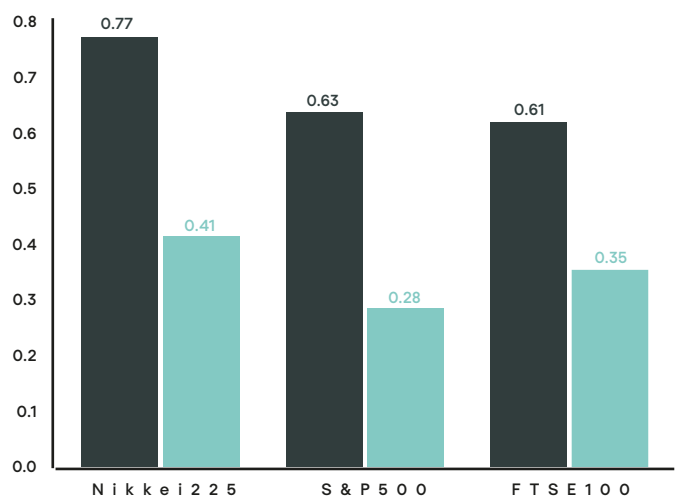
The Bitcoin community has been positioning the cryptocurrency as a digital alternative to gold in recent years. While some attributes hold to the notion, limited supply, for example, there are other considerations that investors would take when looking at positioning Bitcoin in their portfolios.

A key metric that the cryptocurrency would need to establish before dethroning the oldest store of value as a safe-haven investment is its correlation to other financial assets. Gold, for example, has been a critical hedging asset investors use against a financial crisis and long-term inflation as it has historically not been correlated to the swings of stock markets.

Investors looking to minimize their risk would opt to diversify their portfolio from high-risk equities using treasury bills, gold, and potentially the new kid on the block, Bitcoin.

But recent market activity threw a spanner against this idea that Bitcoin is a safe-haven asset. However, the narrative of a store-

1: Bitcoin Correlation during 2020 Market Peak & Bottom: Spot & Futures



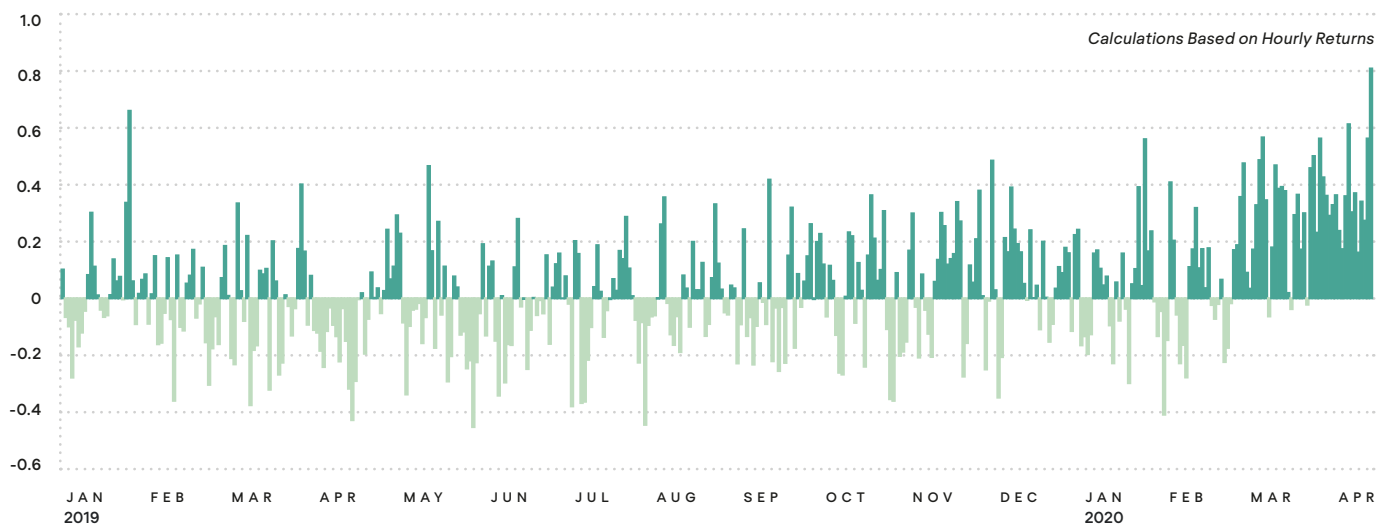
of-value can still hold true on a longer-term perspective as the cryptocurrency regained the majority of its losses it saw during the market downturn this year.

Still, despite its price recovery, and the characteristic of Bitcoin being notoriously volatile and now closely linked to equity markets shifts it from purely speculative investment to a high-risk investment akin to equities.

But this very correlation might be a boon to some investors as the market movements of Bitcoin following the world's most liquid index provides traders with a potentially known factor.



2: Daily Rolling Correlation to Bitcoin across Key Indexes - S&P500, Nikkei225, FTSE100 - During Trading Hours (Excluding Futures)



Bitcoin's correlations to the S&P 500, the world's most prominent stock market index, hit its highest ever during the market downturn in the first quarter of 2020 on the back of novel Coronavirus pandemic fears.

Japan's price-weighted index, the Nikkei 225, by more than 20% of the correlation results to the S&P 500 from the period when the market's peaked on 19 February, to its most recent bottom met on 23 March (see chart 1).

But Bitcoin doesn't live in a vacuum waiting for the opening bells of Wall Street. It continues to trade in the early morning hours and into the late nights overshadowing stock market trading times.

Strong correlation trends have yet to subside since markets rallied back up from the March low. Bitcoin so far remains at a higher correlation to global markets more than ever before in April (see chart 2).

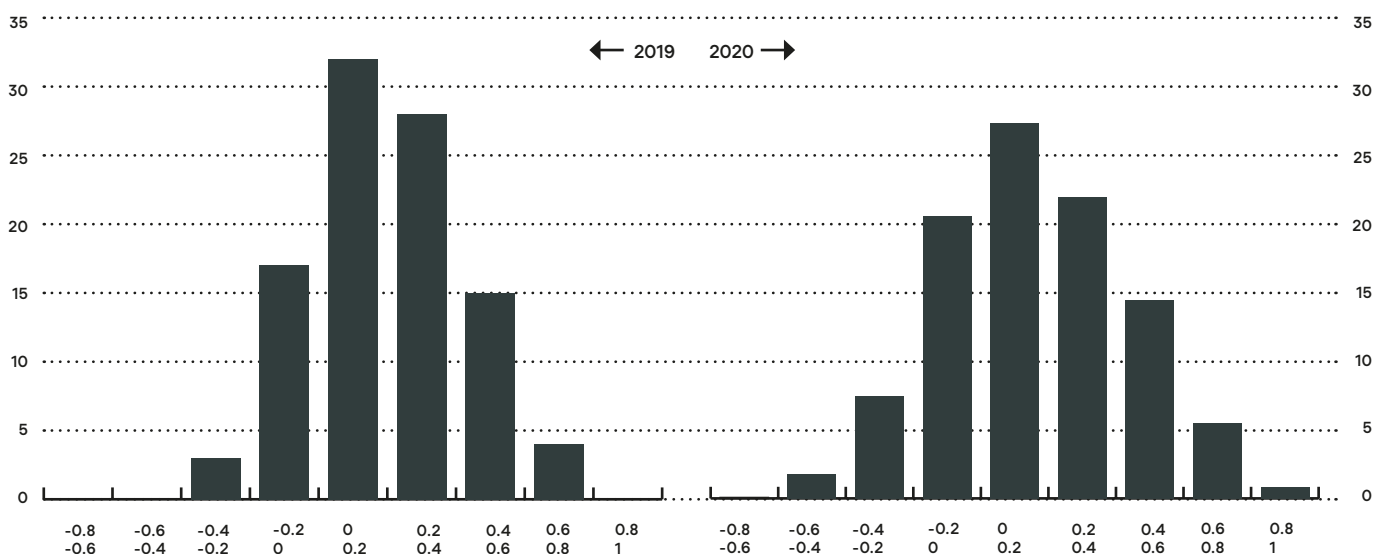
And while the S&P 500 is a key indicator of financial market movement at the forefront of an investor's overall economic picture, seemingly missed is Bitcoin's correlation to other financial markets around the globe.

But although the new day-to-day positive correlation shows staying power, Bitcoin remains to have significant variance in terms of hourly returns against the key indexes. The majority of hourly return results indicate that Bitcoin is still an uncorrelated asset, although less than it was back in 2019 (see charts 3 & 4).

Copper analysis finds that Bitcoin is even more correlated to

3: 2019 Hourly Bitcoin Correlation Distribution (%)

4: 2020 Hourly Bitcoin Correlation Distribution (%)





## Spot & Futures Correlation: Indicator of Institutional Players?

There is more than meets the eye in correlation data. With major indexes trading on futures markets, the data can tell an increasingly compelling story as to the cryptocurrency's market movements after major markets close.

When assessing results during market hours and futures, there are clear ebbs and flows in the correlation results and how close the price movements are linked to major indexes.

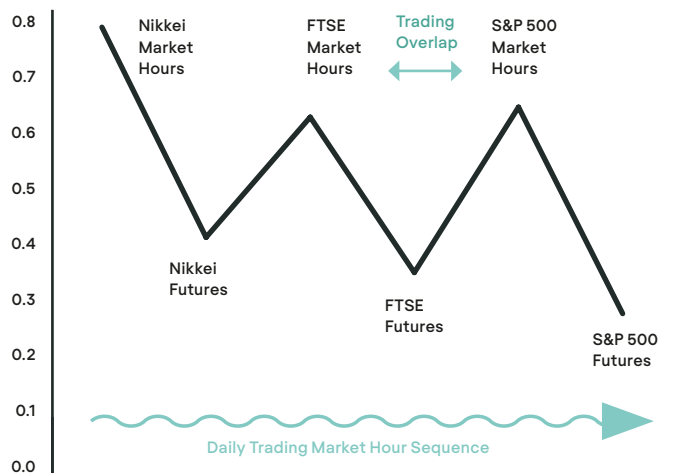
In fact, across the three major indexes, futures correlation to Bitcoin even during the peak and bottom of 2020 was almost half of that seen during regular stock market trading hours.

It is valid to point out that global financial indexes are closely correlated. But so are their corresponding futures despite facing a time-lag and market open synchronization.

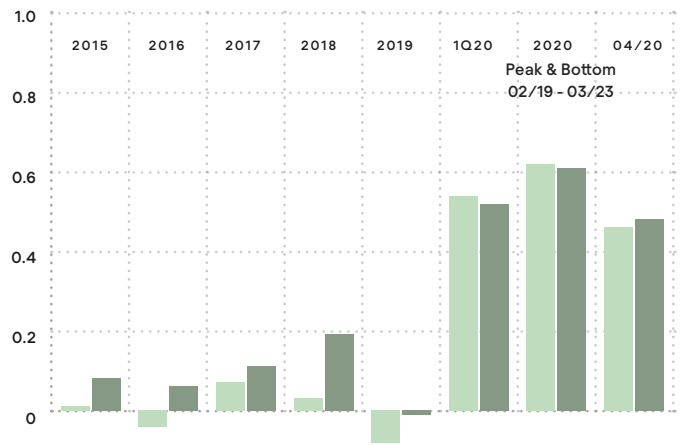
But what is of significant note, evidenced by the data results, is that Bitcoin is not only correlated to the S&P 500, but all markets around the world. And the correlation points to uniform market movements (see chart 5).

This back-and-forth drop in correlation followed by a strong positive relationship - could be an indicator that there are more sophisticated investors at play, perhaps waiting for major bourses to open and begin their trading days.

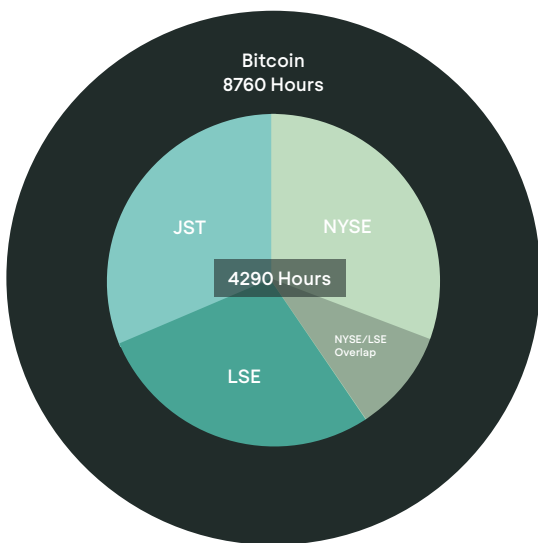
5: Bitcoin Correlation to 2020 Market Peak & Bottom: Spot & Futures



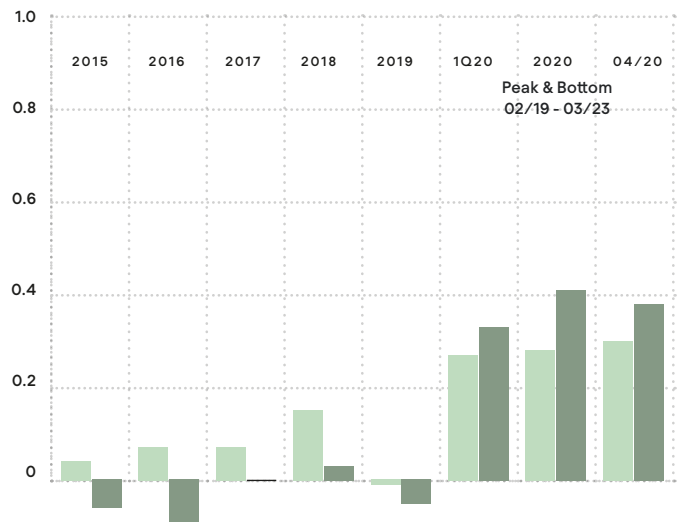
6: Open-Market: Hourly Bitcoin Correlation to the S&P 500 and Nikkei



Major Stock Exchange Market Trading Hours vs Bitcoin



7: Futures : Hourly Bitcoin Correlation to the S&P 500 and Nikkei





## Retail Exchange Trading Volume Time Capture

While it does remain a difficult task to assess institutional interest, especially given the increase in sophisticated over-the-counter Bitcoin markets, a look at major retail exchanges could help indicate whether or not correlation data has more to tell.

Bitcoin's unabated round-the-clock trading hours is undoubtedly a new characteristic of global markets. The cryptocurrency is available to investors more than five times the number of hours the New York Stock Exchange trades. And even accounting for Tokyo's and London's stock exchanges, Bitcoin has more than double the hours year-round available to be traded across global cryptocurrency exchanges.

But a look into the distribution of trading volumes happening on major cryptocurrency exchanges shows that it might not be the winning feature in terms of increasing demand after all.

A look at Coinbase, Bitstamp, and Binance, all three which have carved out a specific market to date (US, Europe, and Asia respectively), shows that the majority of trading volume still happens during hours that major stock markets are open (see charts 8, 9 and 10).

Importantly, the trading volume distribution across these exchanges are very close to one another despite having gained the attention of some regions more than others.

Since 2018, trading volumes on weekends and non-trading hours (closed stock markets), only accounted for an average of 35%. In 2020, Bitcoin traded volume on these major exchanges during New York Stock Exchange hours was 35% alone.

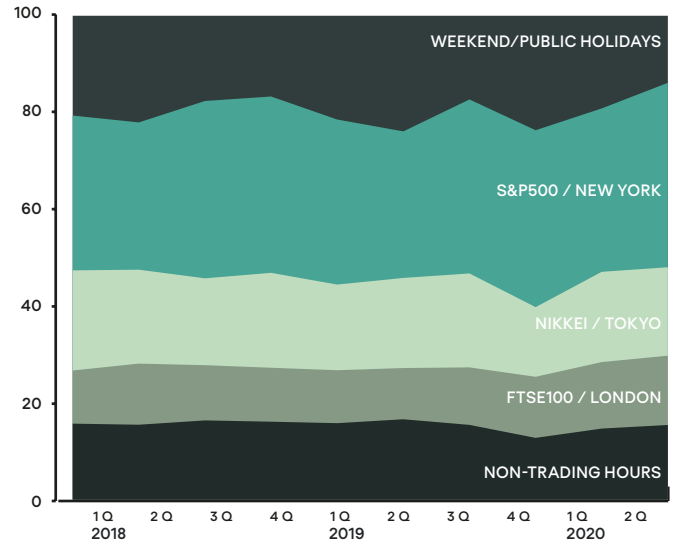
## Bitcoin Alongside Majors?

Bitcoin's recent correlation to global markets is still looking for more direction. And whether or not it can prove to be a secure store-of-value or a safe-haven asset remains to be established.

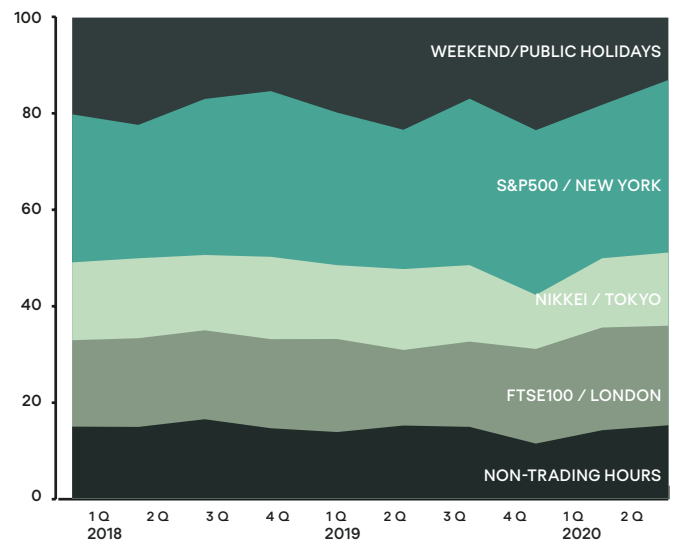
But the cryptocurrency's recent mimicking of major index movements can be seen as a positive trend indicating more sophisticated traders have taken keenly to the potential investment.

Such linear movements can ultimately bear a handful of plausible explanations. Either Bitcoin has garnered the interest of higher calibre traders, or High-Frequency-Trading algorithms are following major indexes worldwide. Perhaps even a bit of both.

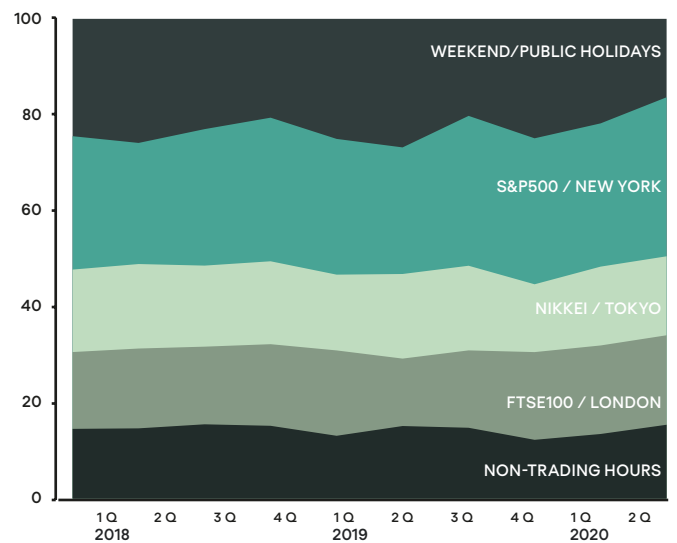
8: Coinbase Trading Volume Distribution by Trading Periods (%)



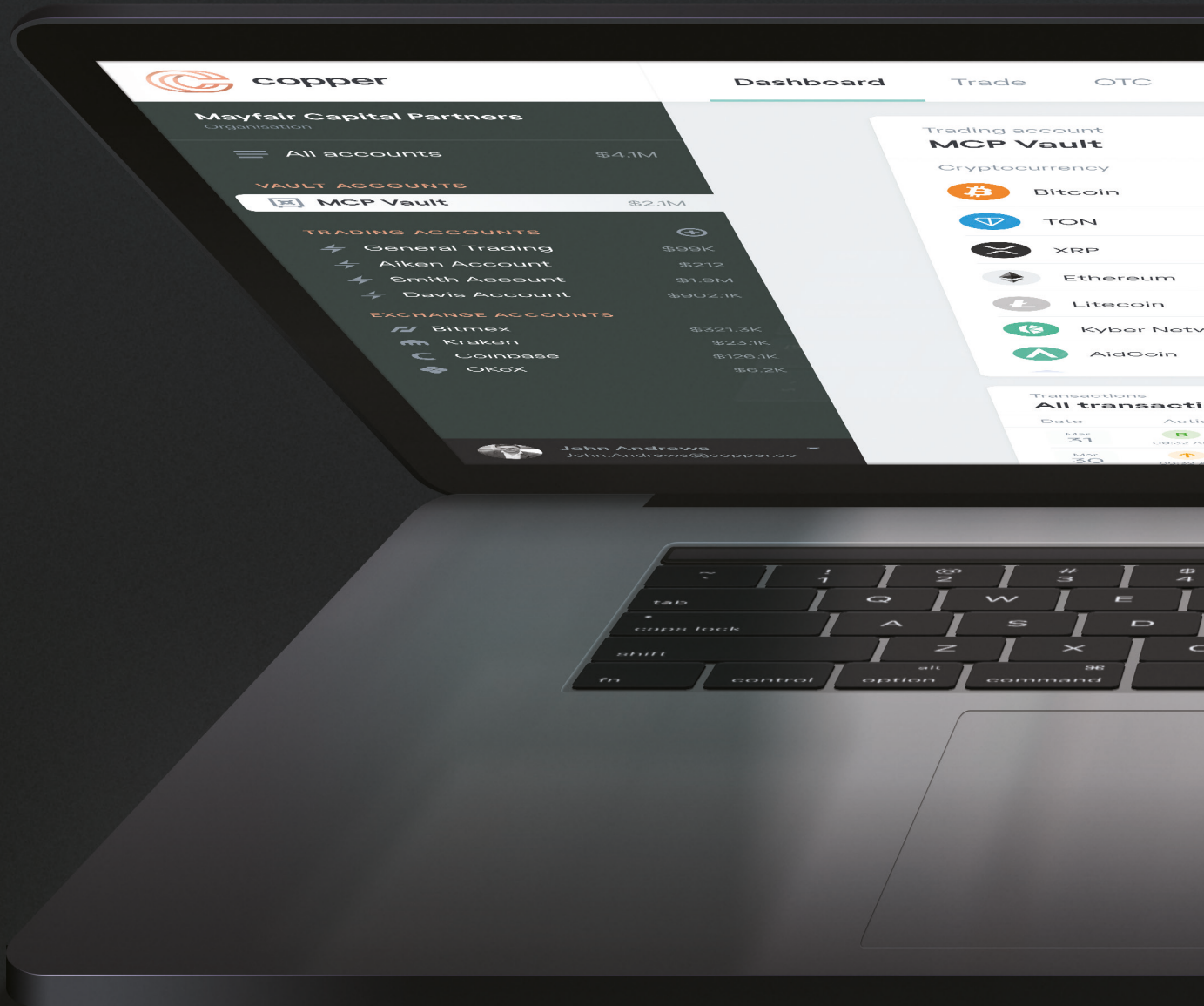
9: Bitstamp Trading Volume Distribution by Trading Periods (%)



10: Binance Trading Volume Distribution by Trading Periods (%)



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