

BITCON AND THE SP&500 RELATIONSHIP

A RELATIONSHIP BETWEEN BITCOIN (BTC) PRICE AND THE S&P500 MARKET INDEXES IN A 5 YEAR SPAN.

PRESENTED BY: TRAVIS

WHAT IS THE ROLE OF BITCOIN IN OUR ECONOMY?

IF BITCOIN HAS BEEN PLAYING A SAFE-HEAVEN ROLE IN THE INVESTMENT WORLD, WE SHOULD EXPECT TO SEE A NEGATIVE RELATIONSHIP BETWEEN STOCK AND BITCOIN PRICES.

BELOW ARE THREE POTENTIAL ROLES:

IS BITCOIN FOLLOWING A TREND DIFFERENT THAN FINANCIAL MARKETS.

IF STOCK PRICES ARE RALLYING, IS THIS ALSO VISIBLE IN BITCOIN PRICES?

A THIRD POTENTIAL OUTCOME FROM OUR ANALYSIS MAY BE THAT BITCOIN PRICES DO NOT SHOW A RELATIONSHIP WITH THE STOCK MARKET AT ALL.

DATA

LETS USE DATA OVER A 5 YEAR SPAN

- WE RELY ON FEDERAL RESERVE ECONOMIC DATA FOR THE S&P500, AND WILL PULL FROM A RELIABLE SOURCE
- USING THE FINANCIAL MODELING PREP API , THIS PROVIDES DATA FOR BITCOIN PRICES THAT MEETS OUR NEEDS FOR 10 YEARS

DATA CLEANUP & EXPLORATION

WE WILL WANT TO ‘CONNECT’ BOTH TYPES OF DATA TOGETHER, THRU THE DATE AS THE INDEX
CLEANING WILL REQUIRE REMOVING NULLS FROM THE S&P, AS TRADING IS ONLY DONE ON
WEEKDAYS, WHILE BITCOIN ‘NEVER SLEEPS’

- DISPLAYING OUTPUT ALONG THE DATA ORGANIZATION JOURNEY, WILL GIVE US A VISUAL IF WE ARE
ON THE RIGHT PATH
 - OUR OUTPUT WAS IN A (JSON)DICTIONARY PANDA DATAFRAMES
 - THERE WAS A NEED TO ORGANIZE BOTH S&P500 AND BITCOIN PRICING, INTO ONE DATAFRAME
 - CORRELATIONS COULD THEN BE SEEN

DATA ANALYSIS

USE PANDAS DATAFRAME.CORR() WE LOOKED TO FIND THE CORRELATION OF OUR PANDAS
DATAFRAME COLUMNS: S&P500 CLOSING PRICE AND BITCON (CLOSING/EOD) PRICE

RESULTS

HOW TO INTERPRET THE CORRELATION BETWEEN BTC AND S&P 500 PRICES?
THE VALUES FROM A CORRELATION MATRIX RANGE FROM -1 TO 1.

CLOSER TO +1 MEANS THAT BOTH VARIABLES MOVE CLOSELY TOGETHER AND IN THE SAME DIRECTION.

A VALUE OF 0 MEANING THAT THERE IS NO RELATIONSHIP BETWEEN THE VARIABLES.

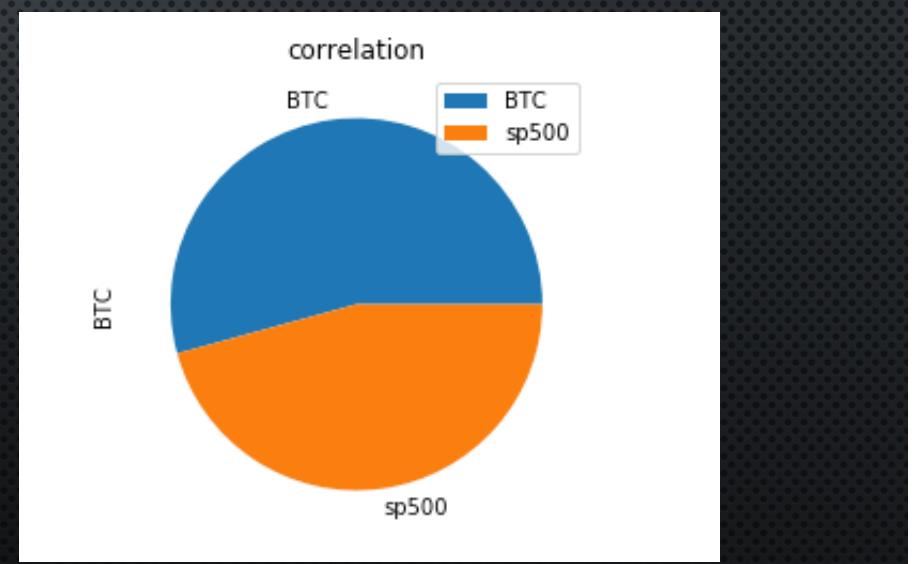
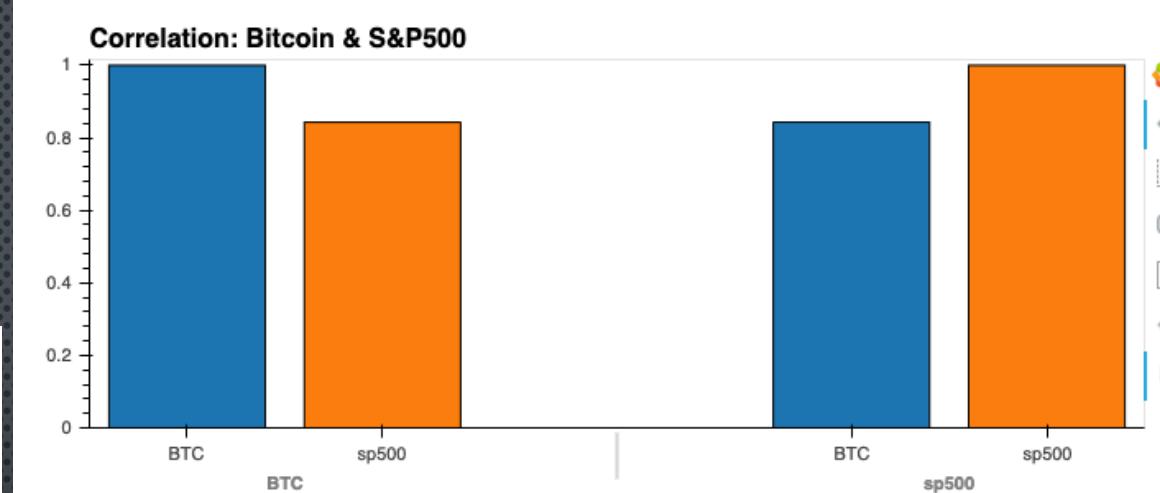
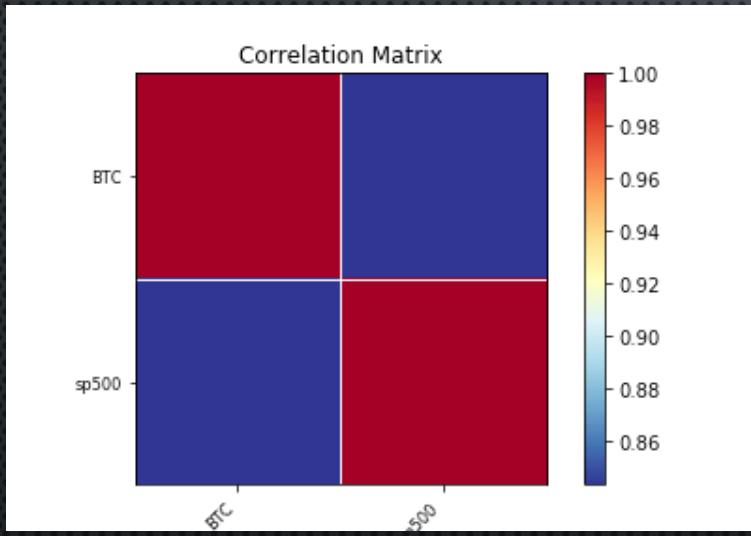
A NEGATIVE CORRELATION INDICATES THAT THE VARIABLES MOVE IN DIFFERENT DIRECTIONS.

THE CLOSER TO -1 THE STRONGER THE INVERSE RELATIONSHIP.

AT THE END, WE FOUND: S&P500 AND BITCOIN PRICES RELATED TO EACH OTHER

Entity	BTC	S&P500
BTC	1.000000	0.843103
SP500	0.843103	1.000000

VISUAL CORRELATIONS



WRAPPING UP

- USING PYTHON AND PANDAS, WE HAVE DONE ANALYSIS ON THE **RELATIONSHIP BETWEEN STOCK MARKET AND BITCOIN PRICES**. AS PER OUR ANALYSIS RESULTS, WE CAN SAY THAT BTC AND S&P500 PRICES MOVE PRETTY MUCH IN THE SAME DIRECTION.