March 2022 started

Objective: Gain insights into Bitcoin

Data period: 2013 – 2021 July

Question to ask:

1) What is the trend of the annual closing price from 2013 to 2021?

2) Is market cap related to the prices? According to q1?

3) Is bitcoin market cap related to Ethereum? If so what is it?

Insights:

1) There is an upward trend of closing Bitcoin Prices as 2014 to 2021. There has been a huge climb in Closing Prices from 2020 to 2021. Initial 2013, pricing in hundreds, eventually in 2021, bitcoin is closing at in the 5 digit range. This is almost ~ 50000% increase in price per coin. Eg(50000-100)/100 \* 100%

Sharp increase in trading price of Bitcoin. Can be seen that with time, the price of coin has greatly risen.

Chart, histogram

Description automatically generated

2) OLS Regression Results

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Dep. Variable: Close R-squared: 0.999

Model: OLS Adj. R-squared: 0.999

Method: Least Squares F-statistic: 5.142e+06

Date: Thu, 03 Mar 2022 Prob (F-statistic): 0.00

Time: 20:18:26 Log-Likelihood: -21014.

No. Observations: 2991 AIC: 4.203e+04

Df Residuals: 2989 BIC: 4.204e+04

Df Model: 1

Covariance Type: nonrobust

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coef std err t P>|t| [0.025 0.975]

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Intercept 239.0552 5.740 41.648 0.000 227.801 250.310

Marketcap 5.354e-08 2.36e-11 2267.666 0.000 5.35e-08 5.36e-08

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Omnibus: 1679.806 Durbin-Watson: 0.006

Prob(Omnibus): 0.000 Jarque-Bera (JB): 13577.042

Skew: 2.598 Prob(JB): 0.00

Kurtosis: 12.052 Cond. No. 2.80e+11

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Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

[2] The condition number is large, 2.8e+11. This might indicate that there are

strong multicollinearity or other numerical problems.

We can see from the table that the coefficient of independent variable Market Cap: 5.36\*10^-8. This coefficient is very small but still indicates a small positive relationship between market cap and closing prices. Can observe that increase in market cap by 1, there is small increase of close price by   
5.36\*10^-8. Lets see how market cap has changed from 2013 to 2021.

Chart, histogram

Description automatically generated

Shows market cap grew from approximately 1\*10^10 to 0.6\*10^12. Grew another 100times. Both results show a growth in Bitcoins price and market cap.

3) Lets see how Bitcoin and Ethereum Market cap is related

OLS Regression Results

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Dep. Variable: Marketcap R-squared: 0.048

Model: OLS Adj. R-squared: 0.048

Method: Least Squares F-statistic: 109.7

Date: Thu, 03 Mar 2022 Prob (F-statistic): 4.56e-25

Time: 20:44:59 Log-Likelihood: -56517.

No. Observations: 2160 AIC: 1.130e+05

Df Residuals: 2158 BIC: 1.130e+05

Df Model: 1

Covariance Type: nonrobust

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coef std err t P>|t| [0.025 0.975]

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Intercept 3.182e+10 1.4e+09 22.647 0.000 2.91e+10 3.46e+10

EthMktCap 0.1823 0.017 10.473 0.000 0.148 0.216

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Omnibus: 941.039 Durbin-Watson: 0.005

Prob(Omnibus): 0.000 Jarque-Bera (JB): 3764.070

Skew: 2.168 Prob(JB): 0.00

Kurtosis: 7.799 Cond. No. 9.43e+10

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Notes:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

[2] The condition number is large, 9.43e+10. This might indicate that there are

strong multicollinearity or other numerical problems.

We see here that coefficient is positive. Positive coefficient can be accepted too since p value is small here, can conclude that there is a positive relation. 1 increase in Ethereum market cap gave rise to 0.1823 of BTC market cap. Maybe this can be due to rising popularity of Cryptocurrencies and its rising demand overall in the market over time. Furthermore these 2 coins are big players in the market. They might both have related demands for each of the coin.