

# Financial statistics for S&P500, Gold, and Bitcoin

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# Datasets used

S&P500 and Gold historical Closing price data from Dukascopy.com

Bitcoin historical data from coindocex.com(missing crucial 2011 data)

Price-Earnings Ratio from Macrotrends.net

# Hypothesis 1

1.How well does Gold do as a “Safe Haven” asset?

# Relationship between S&P500 and Gold

S&P500 vs. GOLD



The trends of Gold Close and SP500 Close for Local time Day. Color shows details about Gold Close and SP500 Close.

# Investing in gold during the 2008 financial crash.

## 2008 Stock Market Crash

Gold Performance Sept 29, 2008 to Dec 29, 2009: **25.99%**

S&P500 Performance Sept 29, 2008 to Dec 29, 2009: **-2.7%**



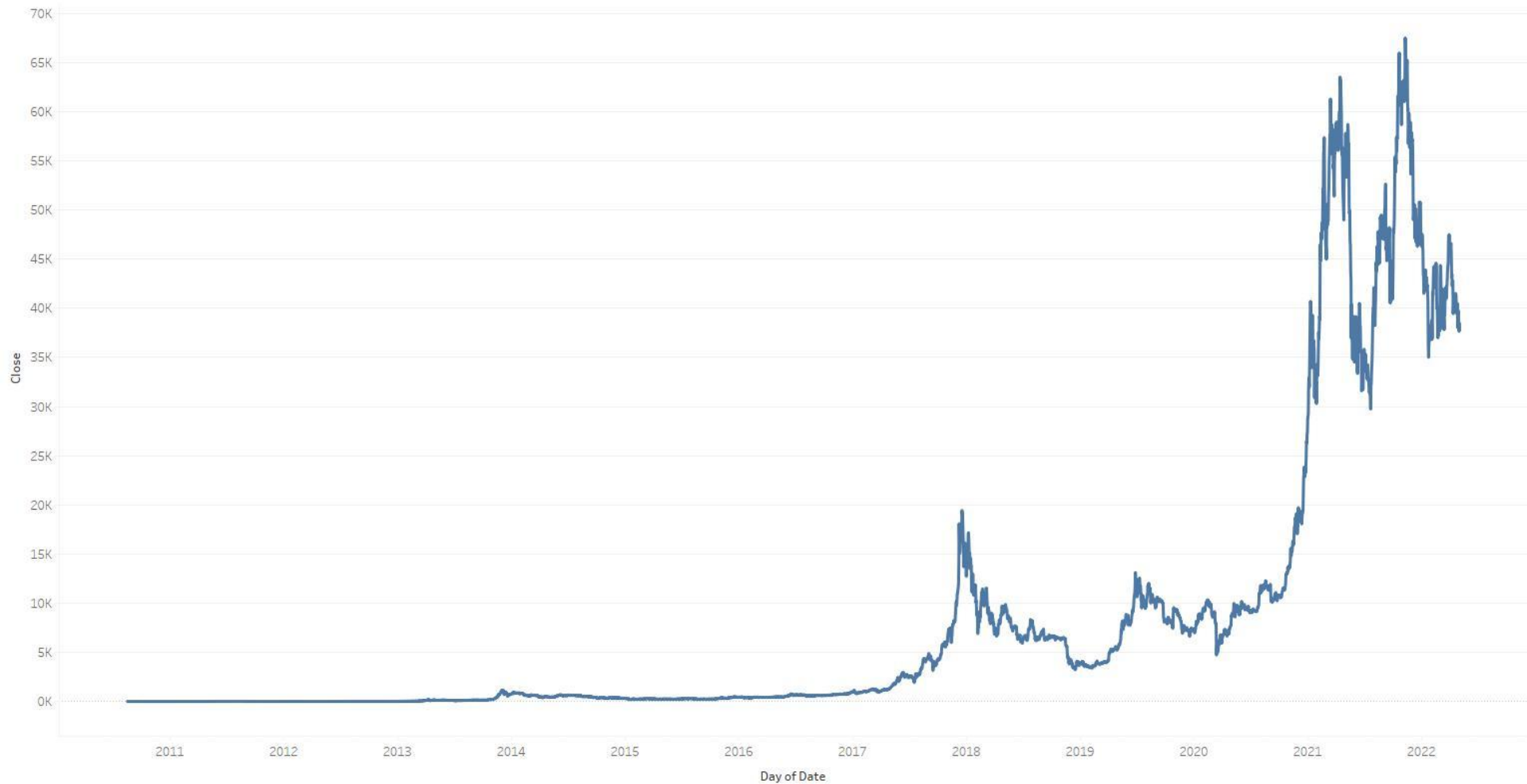
# Safe haven asset Findings

Gold is a good safe haven asset to invest in during an immense stock market crash. Statistics show that it is even possible to make a percentage gain during a stock market turn down with gold. Gold should be held and not sold for an extended period of time.

## Hypothesis 2

2.Does historical bitcoin data give us any insight on when the next bottom will be?

Bitcoin historical data 2010-2022





# Bitcoin drop from 2013 All time high.

Bitcoin fell **84.47%**



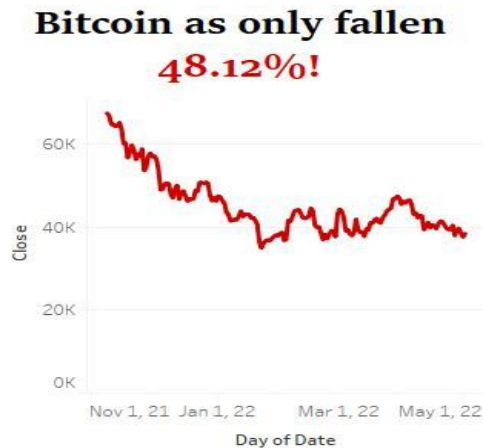
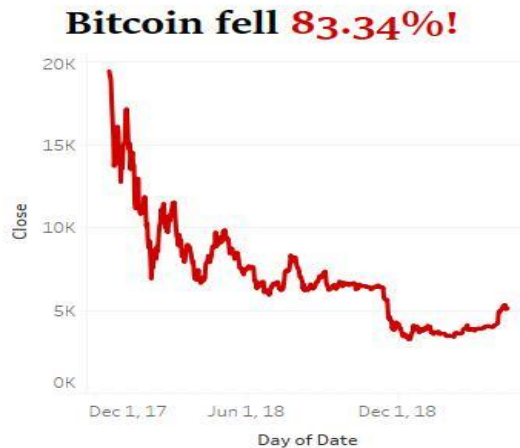
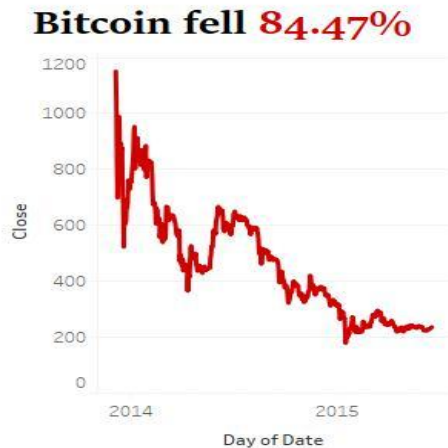
The trend of sum of Close for Date Day. The marks are labeled by sum of Close, % Difference in Close and Date Day. The data is filtered on Date Day, which keeps 559 of 4,186 members.

# Bitcoin drop from 2017 All time high.

Bitcoin fell **83.34%**!



# Bitcoin current drop from 2021 All time high and historical drops.



## Historical Bitcoin drops from all time highs



# Bitcoin Findings

Bitcoin throughout its history has had large spikes in price and then proceeds to have on average a 86.94% drop with a less than a 7% Standard deviation. This has happen 3 times in a row and so far bitcoin has only fallen 48.12% from the 2021 all time high. This could mean that Bitcoin still has a way to go before it reaches a bottom.

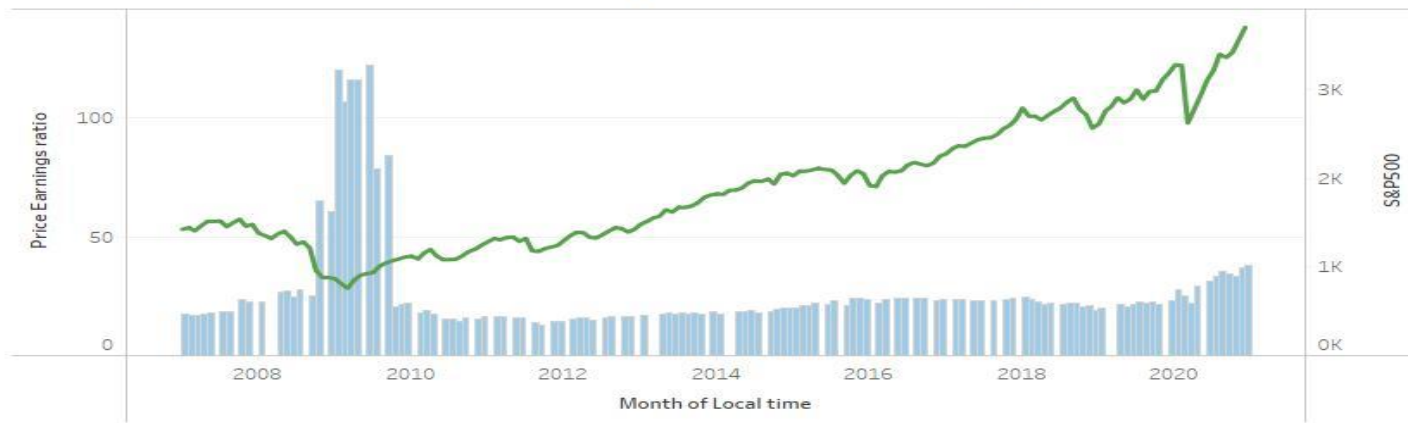
## Hypothesis 3

3. Can Price-Earnings ratio be used to know when to move money from the S&P500 to Gold and vice versa?

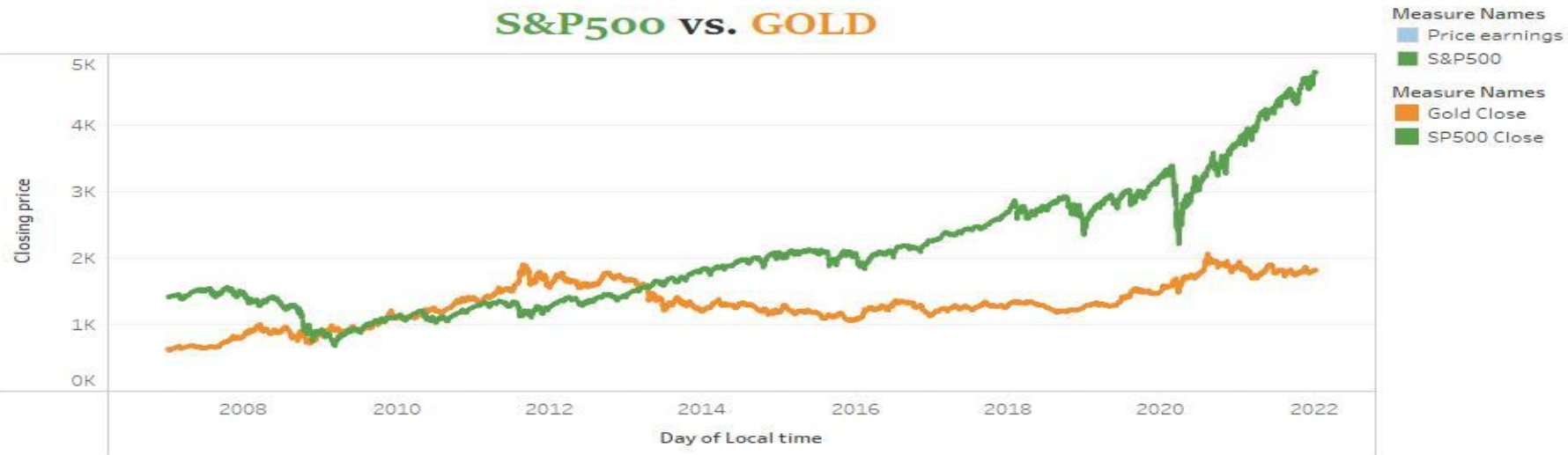
# Relationship between S&P500 and Price-Earnings Ratio



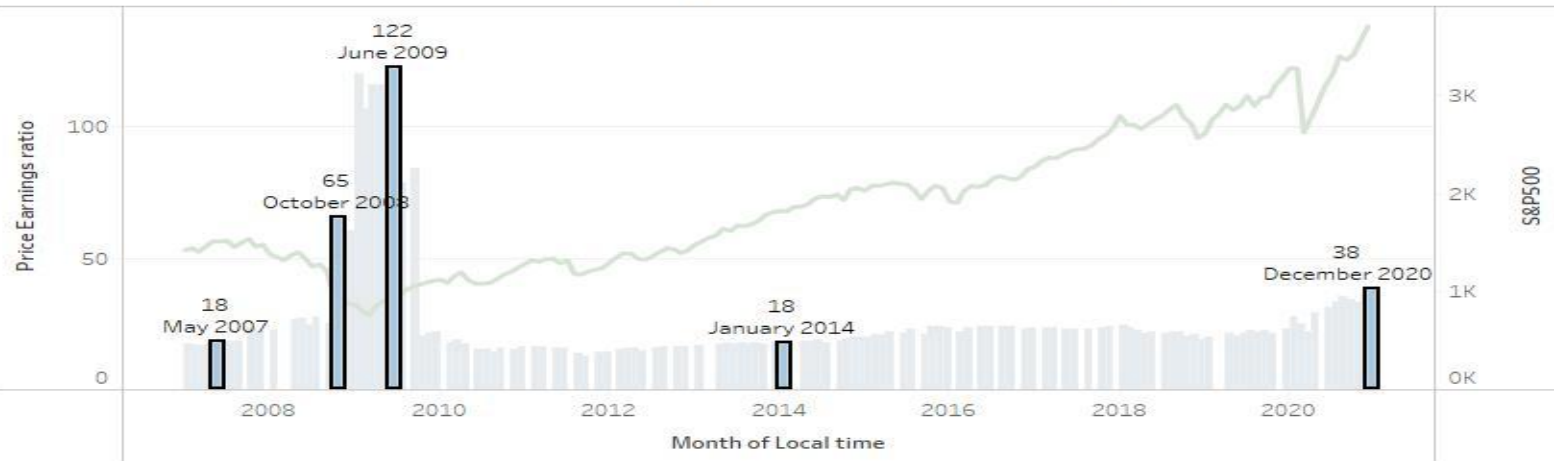
## Price earnings ratio and S&P500



## S&P500 vs. GOLD



## Price earnings ratio and S&P500



## Price-Earning Ratio findings

During a stock market crash, P/E seems to increase significantly. This could be a sign that the market may continue to fall. This could also mean that investing in gold might be a good decision at this point.