

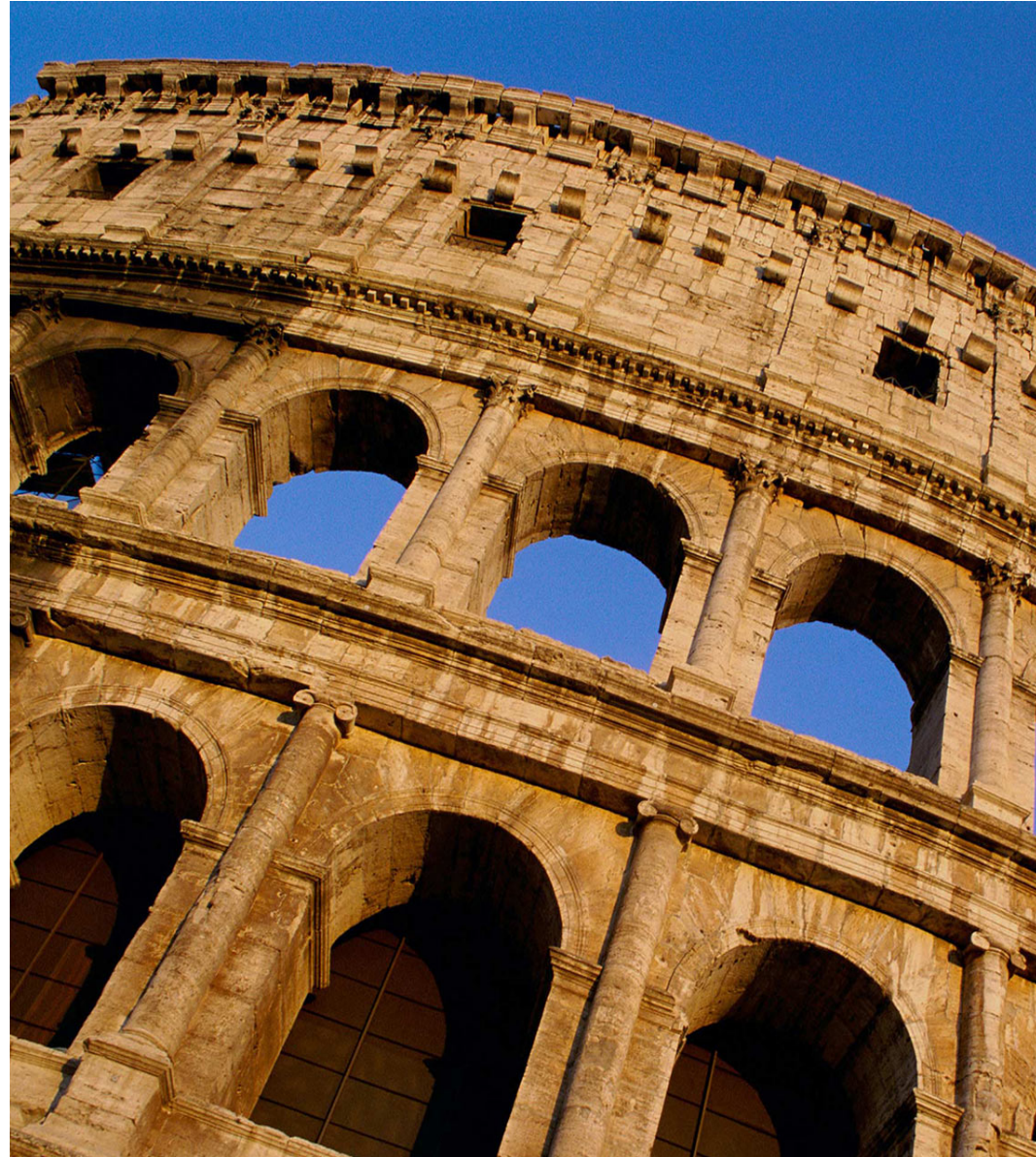
Project 1 - Team #4

# Cryptocurrency Growth compared to Other Assets in Current Macroeconomic Environment

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Columbia University -FinTech PT 06-2020



## Motivation

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With the introduction of **Crypto-Currency Act of 2020** bill, we believe cryptocurrencies will play a more important role in **financial investments** and **daily transactions**.

# Summary

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## **Questions we asked ourselves:**

- 1.Are cryptocurrencies performing well and growing in popularity in comparison to traditional equities market?
- 2.Will stable coins eventually provide a better alternative to the US Dollar?

## **Why these questions?**

- The U.S. equity markets serves as good benchmark to compare performance and popularity of investments in general
- The US Dollar is a very stable currency which is widely used in payments worldwide.
- We want to dig into the emerging digital currencies and compare it to traditional currencies see how this will shape our global economy.

## Summary

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We were able to answer “Part I” of our project conclusively.

We were partly able to answer “Part II” of our project as the data and research shows the work is still in progress.

# Findings

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## **Part I:**

- During the 5-Year period between Aug 2015 - Aug 2020, despite their extreme volatility, Ethereum, Ripple and Bitcoin **outperformed** both S&P 500 and Gold by wide margins.
- Compared to Gold and the S&P 500, the trading volumes for BTC and ETH have exploded from almost 0 between August 2015 - August 2017 and accelerated between 2019 to 2020 to 7-fold and 3-fold respectively.

## **Part II:**

- During the 5-Year period between August 2015 - August 2020, the largest cryptocurrency network (BTC) has grown 4-fold. Nevertheless, the cryptos are far more volatile as compared to the U.S. Dollar Index.
- Our analysis showed that the most widely used stablecoin, Tether, which was initially designed to be pegged to the dollar, has not lived up to its promise. Our finding was that Tether is still far too volatile when compared to the US Dollar.

## Questions & Data Sources

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### **Part I:**

We retrieved the closing prices and trading volumes going back 5 years for the top 3 cryptocurrencies(ETH,BTC,XRP) from **Messari.io**; S&P 500 and Gold data from **Google Finance**.

### **Part II:**

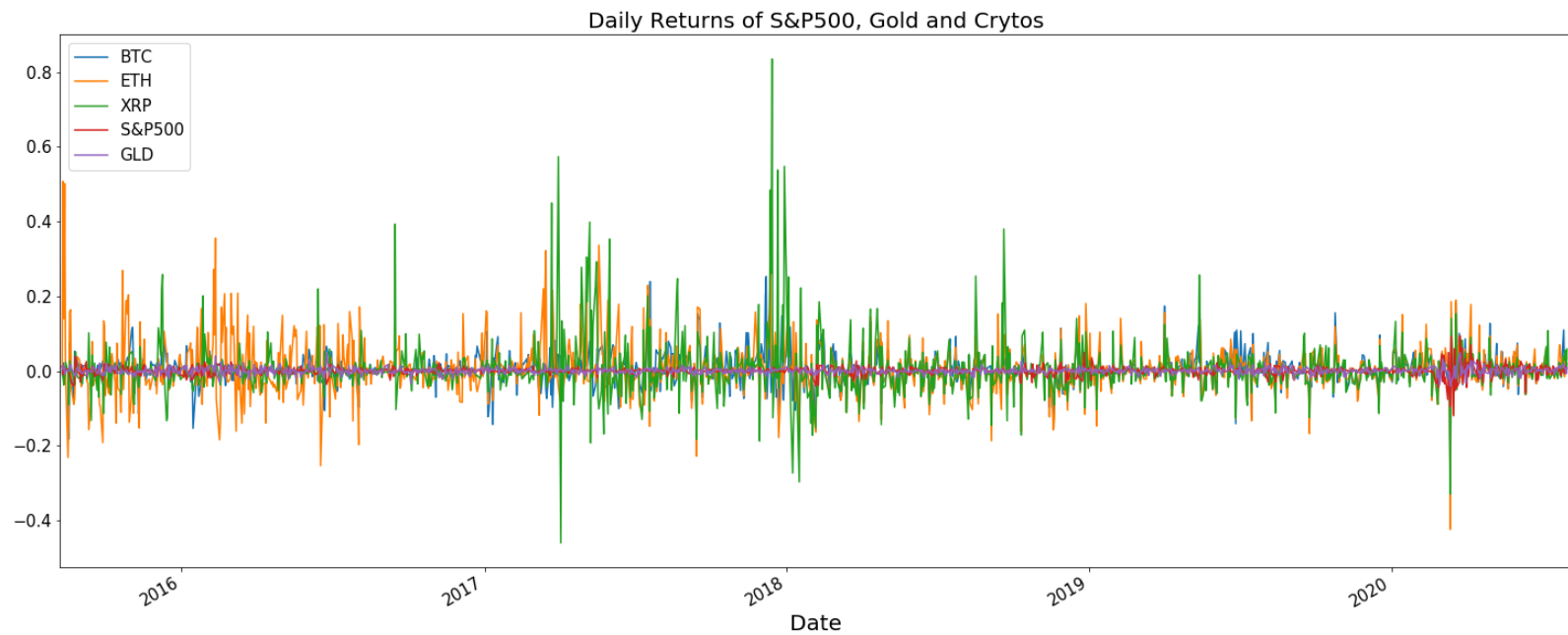
We retrieved the closing prices and trading volumes going back 5 years for XRP and Tether (the largest stablecoin) as well as the active addresses and transactions for Bitcoin from **Messari.io**. *We got the U.S. Dollar Index data from.....*

# Data Clean-Up & Exploration

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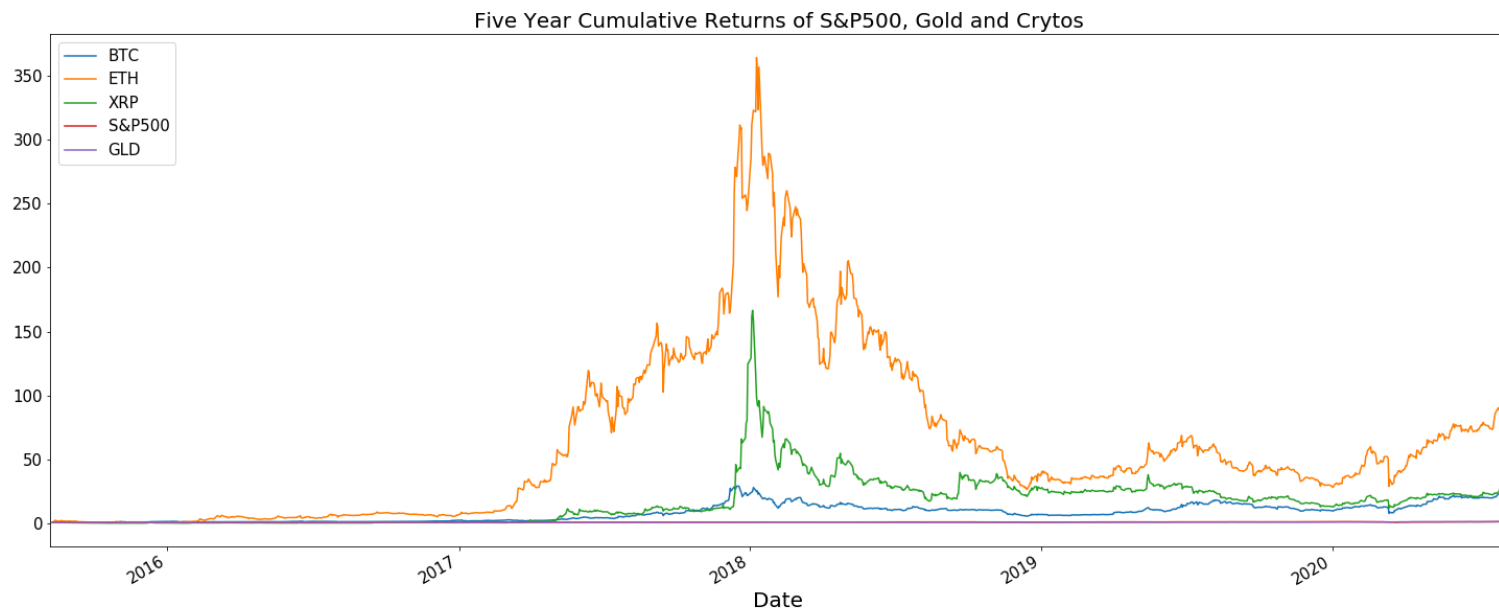
See Jupyter Notebook and Readme.

## Discussion - Daily Returns for S&\_ 500, Gold & Cryptos

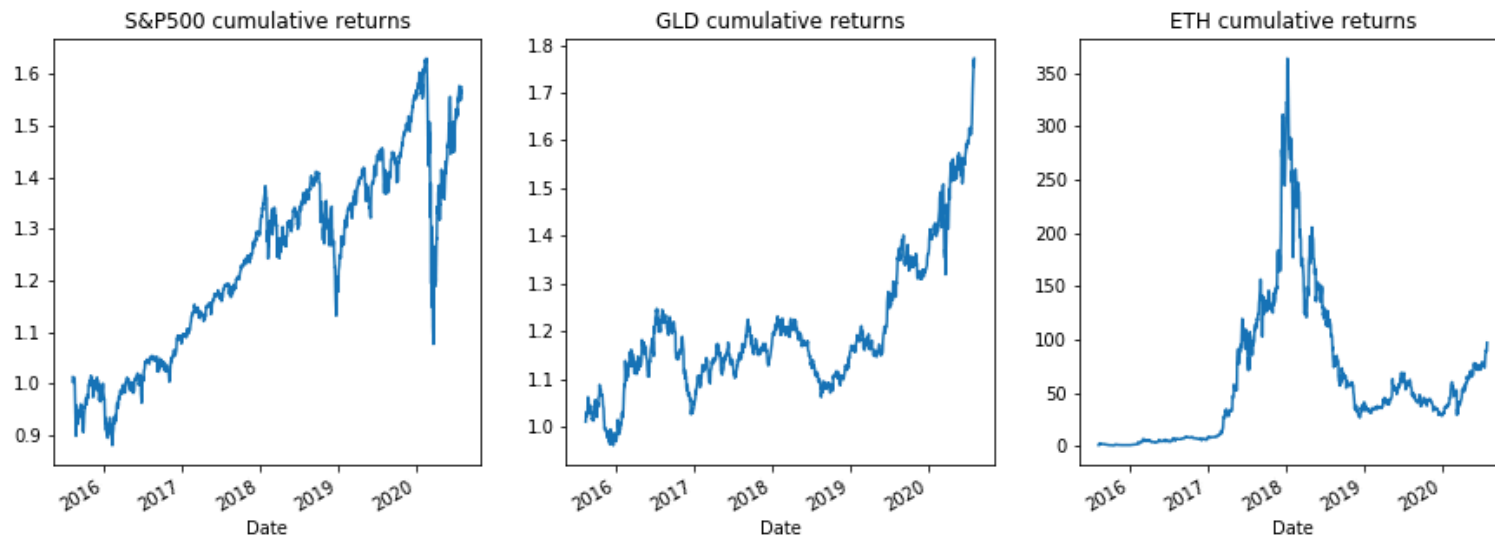




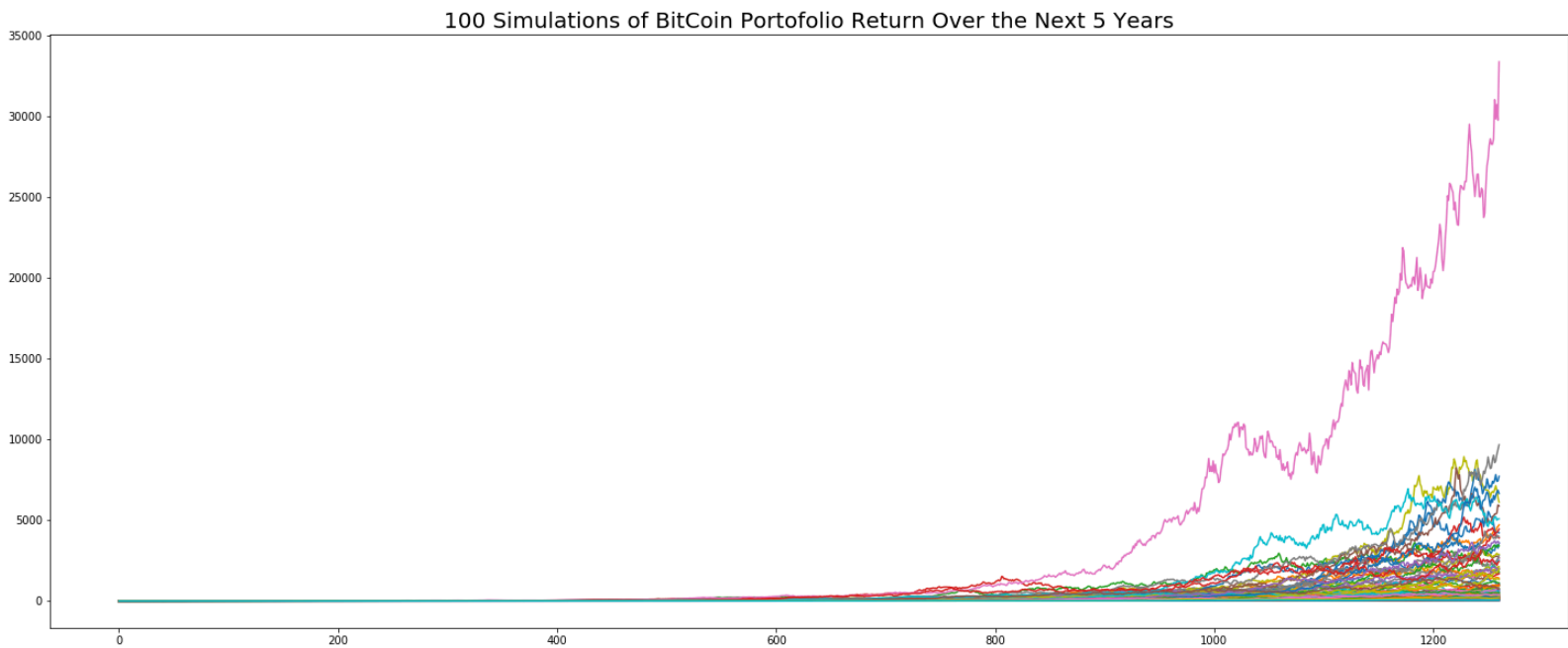
## Discussion - 5-Year Cumulative Returns - S&P 500, Gold & Cryptos



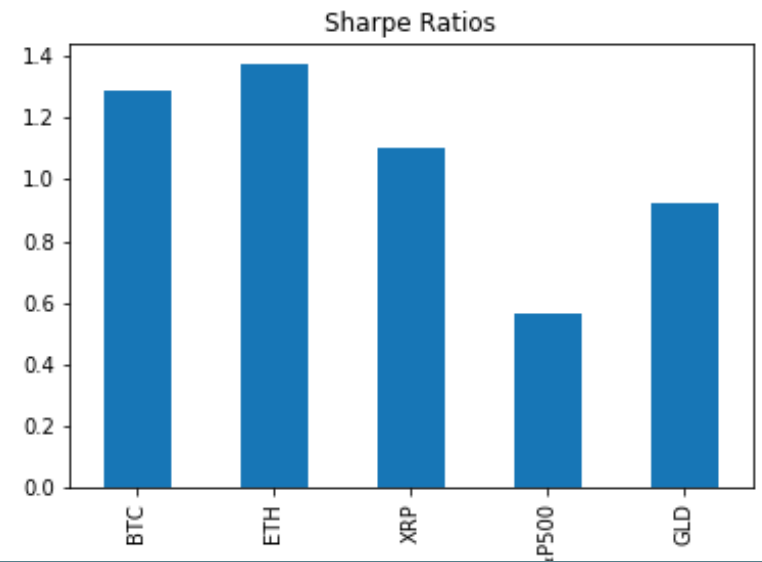
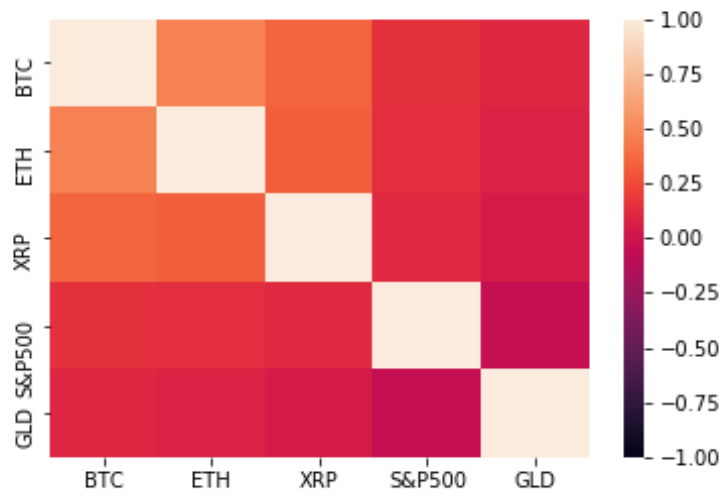
## Discussion - S&P 500, Gold and Ethereum cumulative Returns



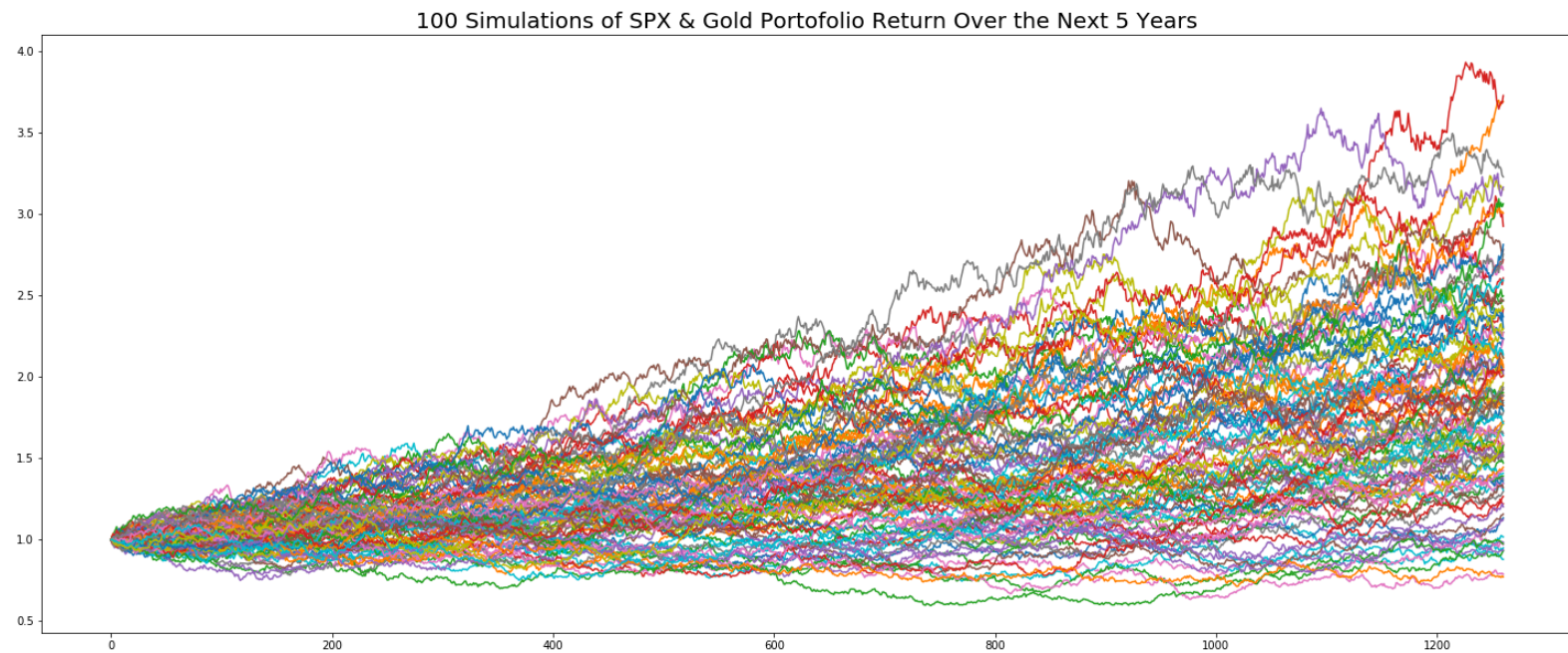
## Discussion - Projection for Bitcoin Returns over the next 5 Years



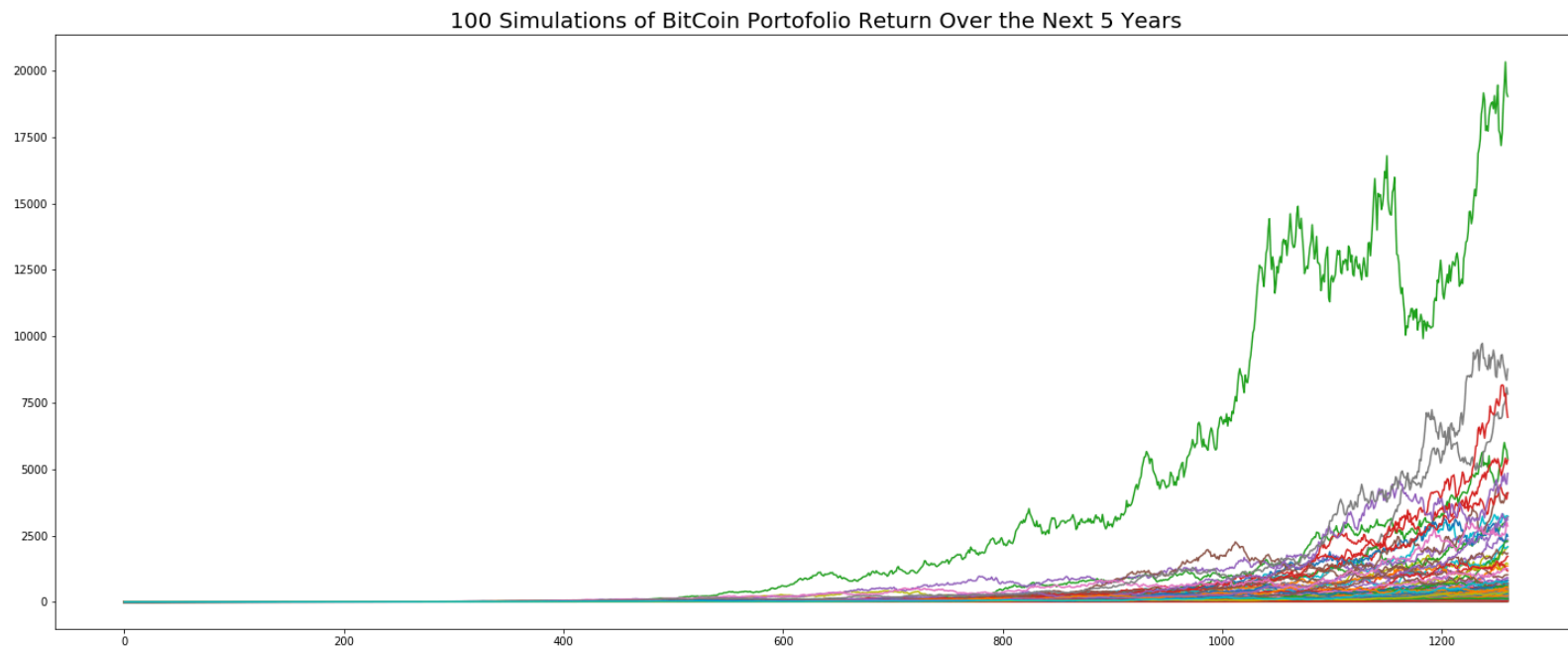
## Discussion - Correlation & Sharpe Ratios



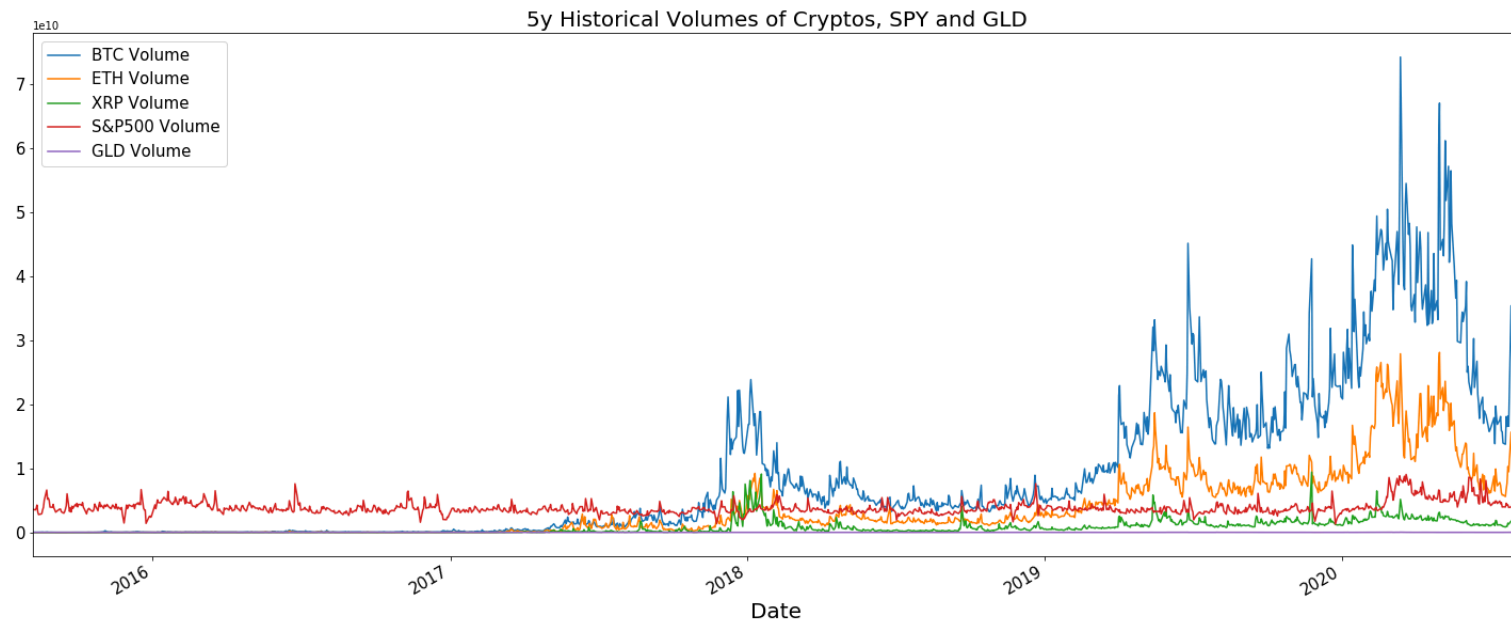
## Discussion - Projecting future returns using Monte Carlo simulation



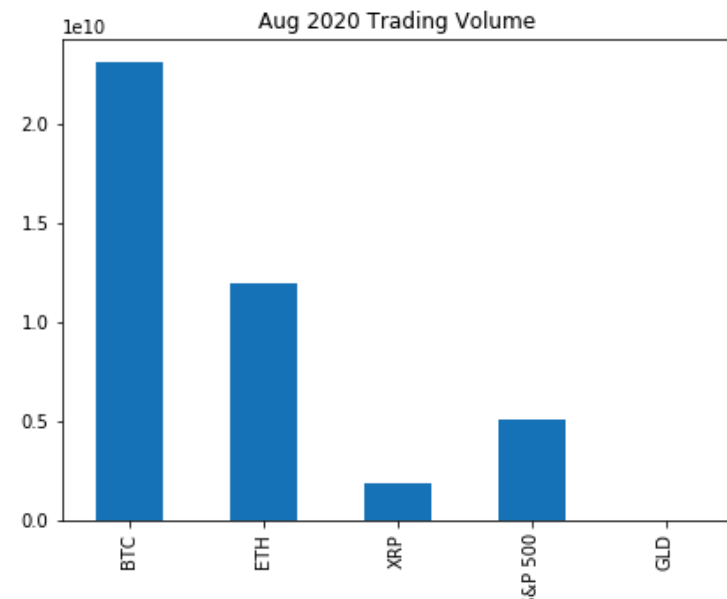
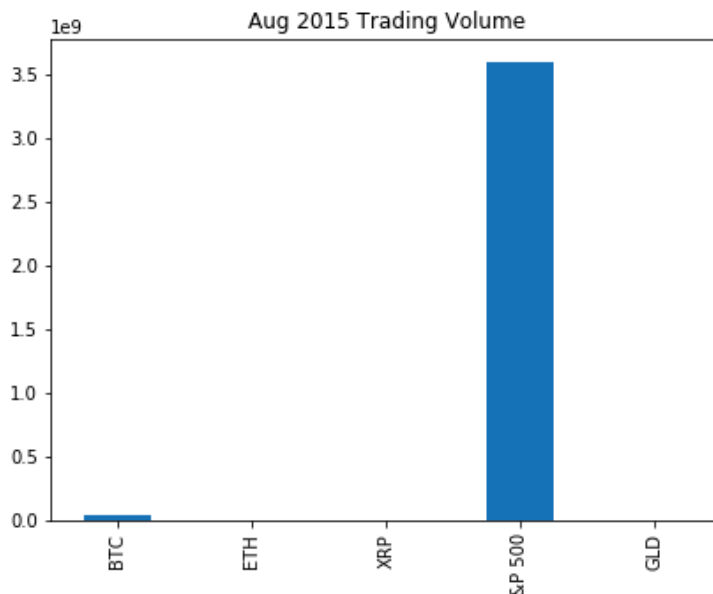
## Discussion - Projecting future returns using Monte Carlo simulation



# Discussion - Trading Volumes Comparison



## Discussion - 5-Year Trading Volume Comparison



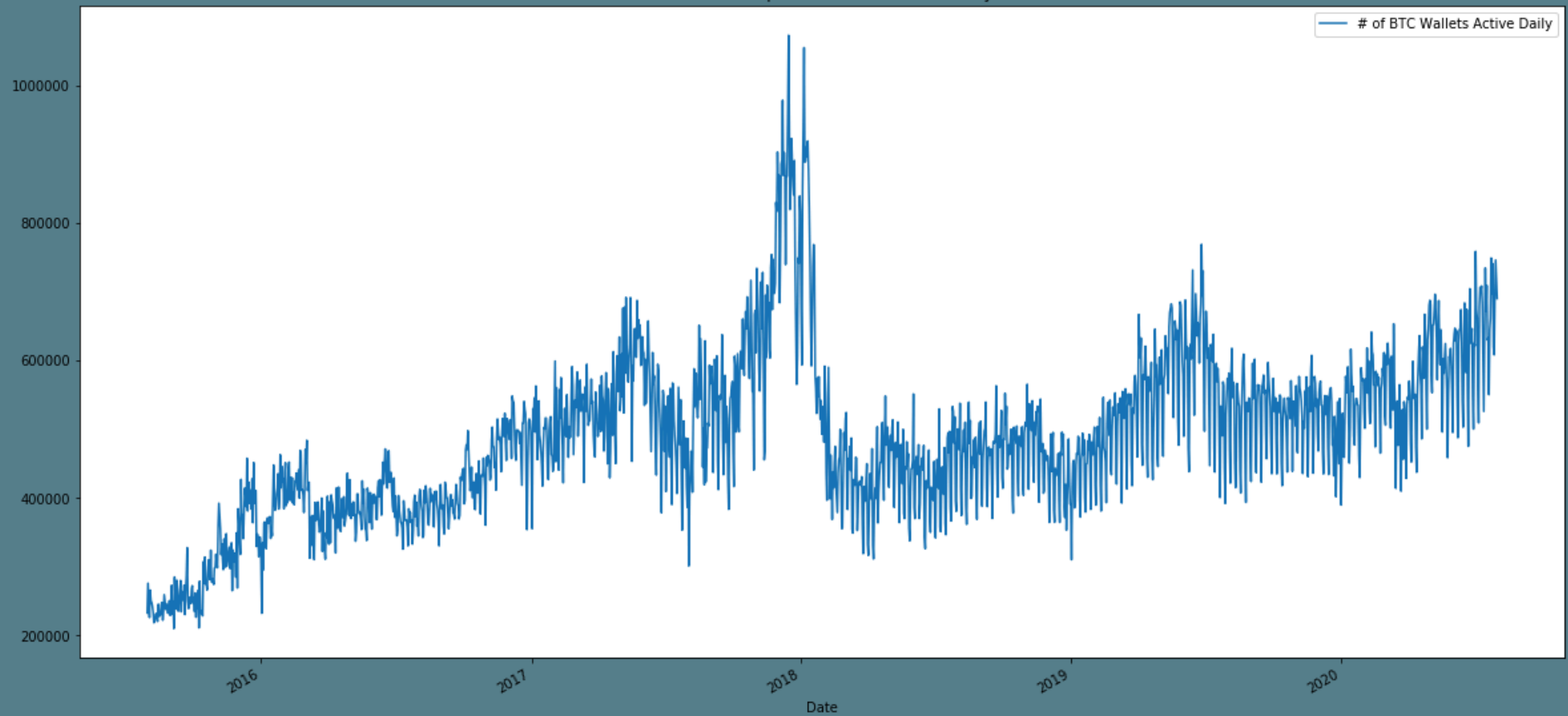


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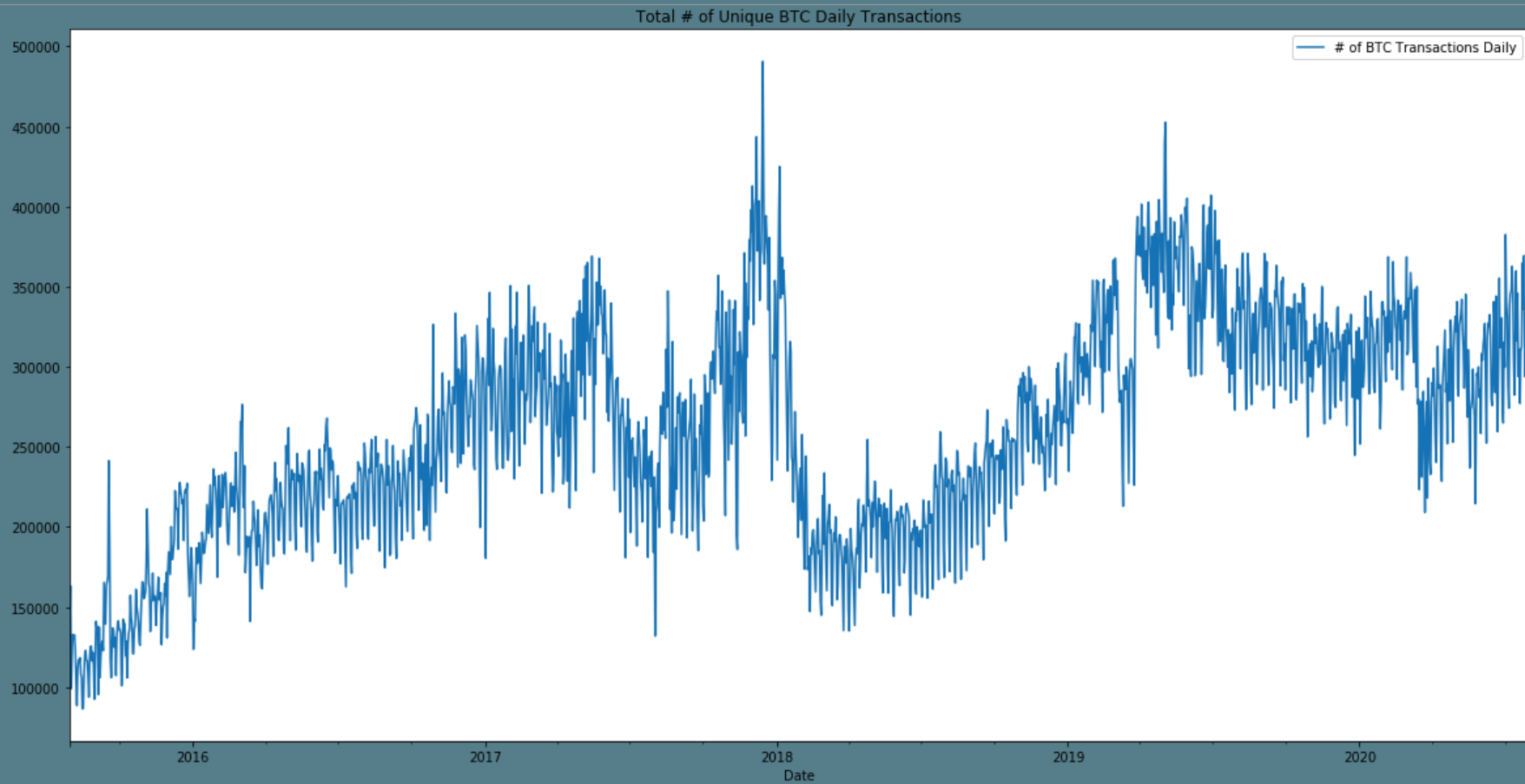
## Part II: Stable Coin Stability Analysis

# BTC -Wallets Active Daily

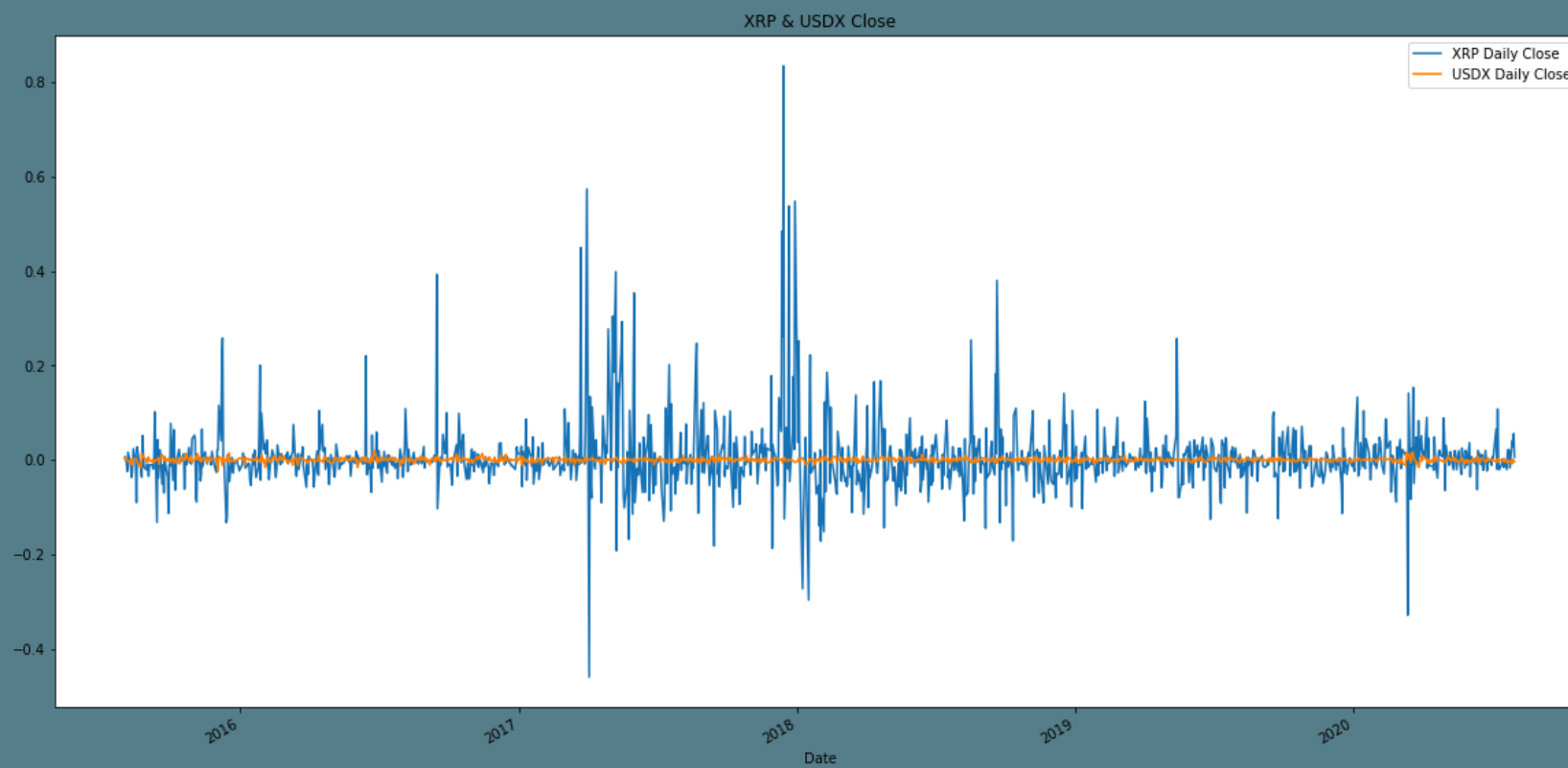
Total # of Unique BTC Wallets Active Daily



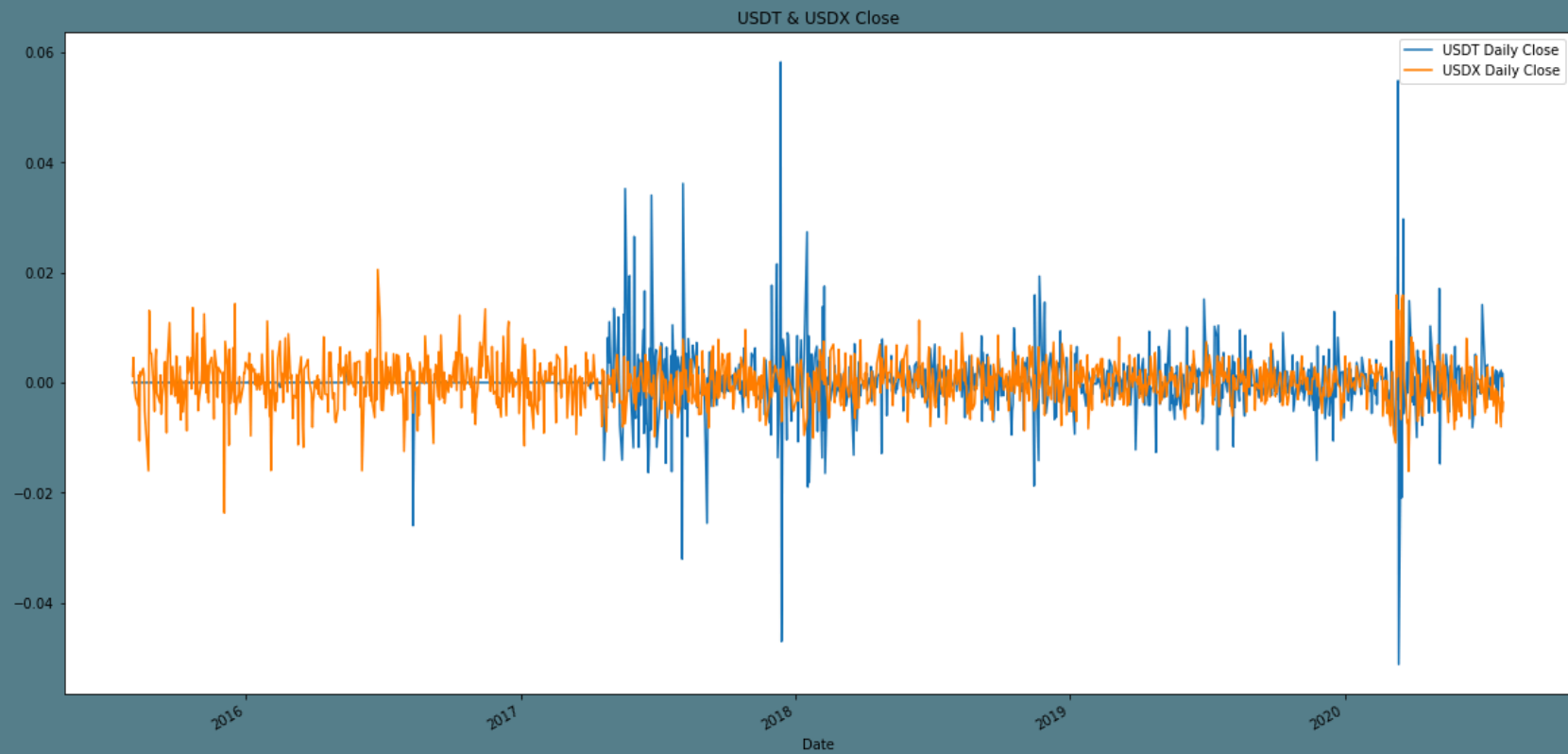
# BTC - Daily Transactions



# XRP Price Volatility vs US Dollar Index



# Tether (USDT) Volatility vs the US Dollar Index (USDIX)



## Discussion - Other Stable coins and Market developments

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- Facebook Libra
- The Cryptocurrency Act of 2020
- Federal Reserve Bank of Boston & MIT Research collaboration on digital dollar
- Current markets necessitated by COVID-19 pandemic and the viability of using a digital stable coin as an extra tool in U.S. Government's and FEDs stimulus response in times of market distress.

## Postmortem - Future Research

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- What is the confidence level in the U.S. Treasuries in current market conditions?
- Could a move towards an economy centered more on cryptocurrencies be on the horizon?

==> If we had two more weeks, we could analyze the data we've already collected on the **US Treasuries**, and see how the cryptos have performed relative to the 1-Year, 5-Year and 10-Year rates.

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Thank you for your Attention

Questions?

Comments ?