Cryptocurrency Beyond the Basics

Python for Financial Analysis

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Syllabus Review

1 Introduction to Python: Python in Finance

2 Python Basic Syntax: Importing Libraries

3 Working with Pandas

4 Pandas Underneath the Hood: Working with NumPy

5 Data Wrangling and Visualization

6 Extracting Financial Insights from Charts and Graphs

7 Financial Calculations with Python: Part 1

8 Financial Calculations with Python: Part 2

9 CAPM and Portfolio Management

10 Linear Regression

11 Time Series Analysis

12 Algorithmic Trading

+ Bonus Class: Cryptocurrency Beyond the Basics with a Fintech Guest Speaker

Class agenda

- Crypto: Commodity or currency?

- The big boys: Bitcoin and Ether

- Impact of current events and regulations

- Analyzing crypto data

- How I mine Ether

Crypto: Commodity or currency?

- What is a commodity?
  a. Gold and silver are commodities that are mined from the ground and refined
  b. Oil and natural gas are extracted from the earth and refined
  c. Fungible
  d. The proof that someone mined it is in your hand
- What is a currency? Wikipedia says
  a. A currency[a] in the most specific sense is **money in any form when in use or circulation as a medium of exchange**, …
  b. A more general definition is that a currency is a system of **money (monetary units) in common use**, especially for people in a nation….
  c. Currencies may act as **stores of value** and be traded between nations in foreign exchange markets, which determine the relative values of the different currencies.Currencies in this sense are defined by governments, and each type has limited boundaries of acceptance.

Bitcoin and ethereum "sniff test"

	USD	BTC	ETH
Scratch a window with it?	yes	no	no
Fungible?	yes	yes	yes
Tender for goods / taxes?	yes	yes	yes
Fiat currency	yes	no	no
Can be sent anonymously?	maybe	yes	yes
Tracking	Two parties	blockchain	blockchain

The big boys: Bitcoin and Ether

Current events and regulations

- Ruble taking a nosedive (but hard to say how much is going into crypto)

- Biden "Executive Order on Ensuring Responsible Development of Digital Assets"

- M1 skyrocketing

- Japan experiencing deflation

- Quantum computing

Analyzing Crypto data

- Can buy and sell like a stock or currency, but has tax implications

- Use your favorite technical analysis system, but *please* backtest it

How I mine Ether

- Origin story: the gaming machine

- Graphics cards can do thousands of calcs per second
  a. GPU and CUDA can do math

- Why Ethereum?

- Adding an SSD with the PiMP O/S

- FAQ:
  a. Have you bought anything with it?
  b. Can it be stolen?
  c. Where do you store it?
  d. Your questions….

Resources

- Currency

  https://en.wikipedia.org/wiki/Currency

- Biden

  https://www.natlawreview.com/article/president-biden-issues-executive-order-cryptocurrencies-taking-steps-toward

- Graphics cards and CUDA

  https://nvidia.custhelp.com/app/answers/detail/a_id/2132/~/what-is-cuda%3F

Q&A