USDT staking return Data Analysis

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WHAT IS TETHER (USDT)?

- Blockchain-based cryptocurrency
  - tokens in circulation are backed by an equivalent amount of U.S. dollars
  - maintains a 1-to-1 ratio with the U.S. dollar in terms of value
- One of the stablecoins
  - avoid the extreme volatility of other cryptocurrencies

Protential Usage

1. Current crypto exchange platform users
   - Review the interest return of current staking
2. Potential Investors
   - Find out the best crypto exchange platform for USDT staking
   - Compare interest return of USDT staking with other low risk investment
3. Other crypto exchange platforms
   - Know more about USDT staking offers from competitors and seek for improvement

PROJECT AIM - PLANNING

BRAINSTORMING

Financial Analysis

- Structure of websites
- Feasibility of data scraping
- Critical data for analysis

DATA COLLECTION

Web Scraping

- AAX
- Binanace
- Bybit
- Huobi
- Crypto.com
- AA stock

DATA PROCESSING

Cleaning & Transformation

- Remove irrelevant information
- Transform raw data to more efficient and readable way

ANALYSIS

Visualization

- Visualise interest return of USDT staking from different crypto exchange platform
- Compare interest return with other low risk investment

WEB SCRAPING

1. Study website structure and select useful data for analysis
2. Collect interest rate return from 5 crypto exchange platforms and other popular low risk investment from AAstock
3. Compile a list and create a dataframe

LIBRARIES

- Beautiful Soup
- Request
- Selenium -->Webdriver
- Selenium -->Keys
- Pandas
- Numpy
- Re
- Time
- matplotlib
- seaborn

WEB SCRAPING METHODS

Scraping various data at the same position

1) Find out the position of the data by XML Path

```
tag_360 = driver.find_element_by_xpath('')
```

2) Click the button

```
eleLink_180 = driver.find_element_by_xpath('')
eleLink_180.click()
```

3) return the <selenium.webdriver.WebElement>

```
all_data.insert(0,tag_180.text)
```

WEB SCRAPING METHODS

Scraping various data at the same position

4) Type the name of the coin into the engines

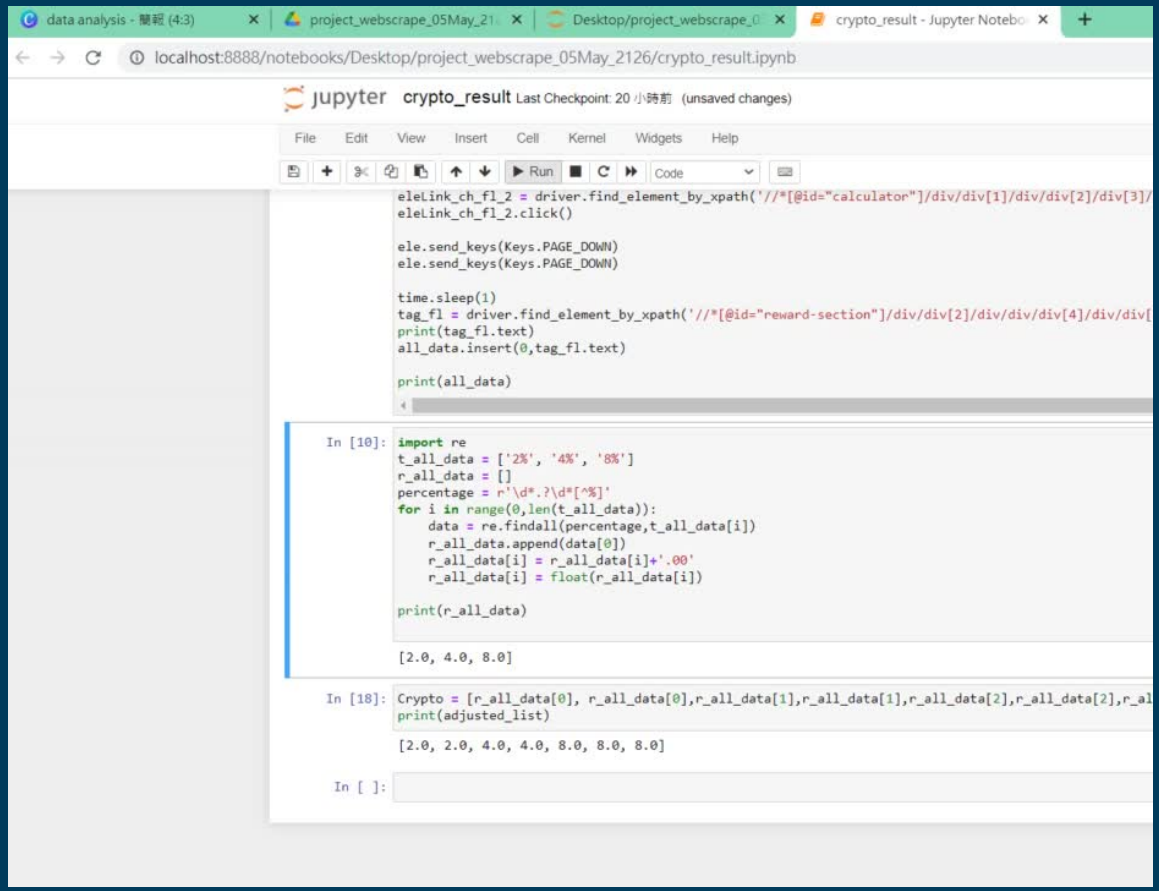
```
from selenium.webdriver.common.keys import Keys
txtbox = driver.find_element_by_xpath('//*[@id="savings-search-coin"]')
txtbox.send_keys('USDT')
```

5) Roll up and roll down to select the correct items

```
ele.send_keys(Keys.PAGE_UP)
ele.send_keys(Keys.PAGE_DOWN)
```

WEB SCRAPING METHODS

Scraping various data at the same position



DATA CLEANING METHODS

Scraping various data at the same position

1) Delete those useless part of the data

```
for i in range(0,len(t_all_data)):
    data = re.findall(r'\d*.?\d*',t_all_data[i])
    r_all_data.append(data[0])
    r_all_data[i] = float(r_all_data[i])
```

DATAFRAME CREATION

	Flexible	14 Days	30 Days	60 Days	90 Days	180 Days	360 Days
AAX	6.35	8.35	10.35	11.15	12.15	13.3500	14.50
Binance	0.00	0.00	5.00	9.00	9.00	9.0000	9.00
Huobi	2.00	5.50	5.50	6.00	6.50	6.5000	6.50
Crypto_com	2.00	2.00	4.00	4.00	8.00	8.0000	8.00
Bybit	3.00	3.00	3.00	3.00	3.00	3.0000	3.00
HSBC	0.00	0.00	0.00	0.00	0.00	2.5700	3.89
ETF_SPY	0.00	0.00	0.00	0.00	0.31	0.6300	1.30
ETF_2800	0.00	0.00	0.00	0.00	0.00	0.4517	2.75

Interest Rate Calculation of HSBC(0005), 2800(ETF) ,and SPY(ETF)

We assume:

internal rate of return is the combination of
1) earning per share
2) price/earning ratio
3) dividend yield

ETF and blue chip stock are consider as low-risk investment

- the volatility is low
- good investment as an dividend stock

Interest rate calculation of HSBC(0005), 2800(ETF) ,and SPY(ETF)

The interest return of dividend stock on that time interval
= distributed dividend per share/ the price per share x 100%

for example:

The dividend day of 2800-ETF is 31st May and 30th Nov

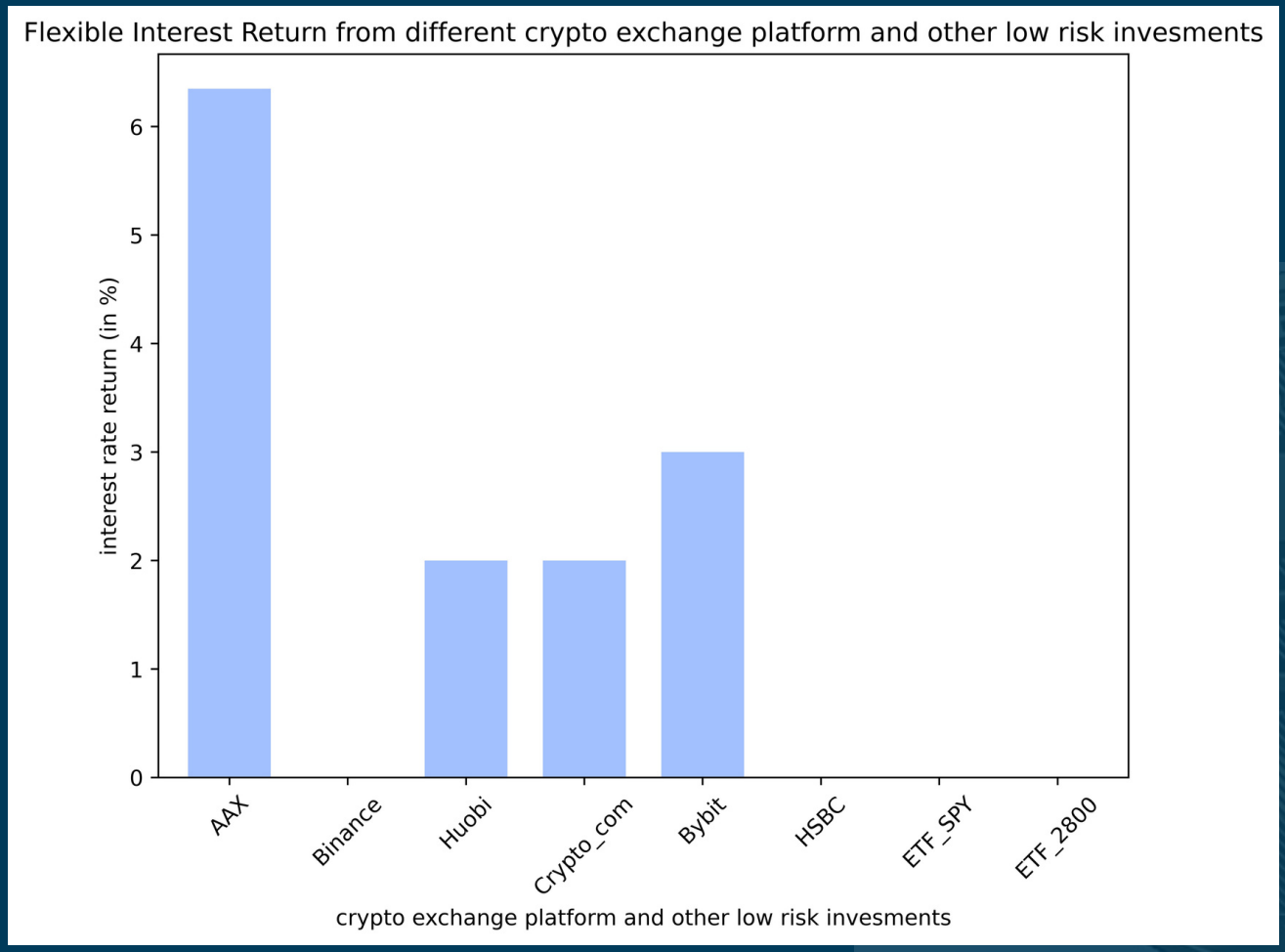
the interest rate of it at 180days

= 0.13 / 28.78 x 100% = 0.45%

the interest rate of it at 360 days

= 0.45% + 0.54 / 23.54 x 100% = 2.75%

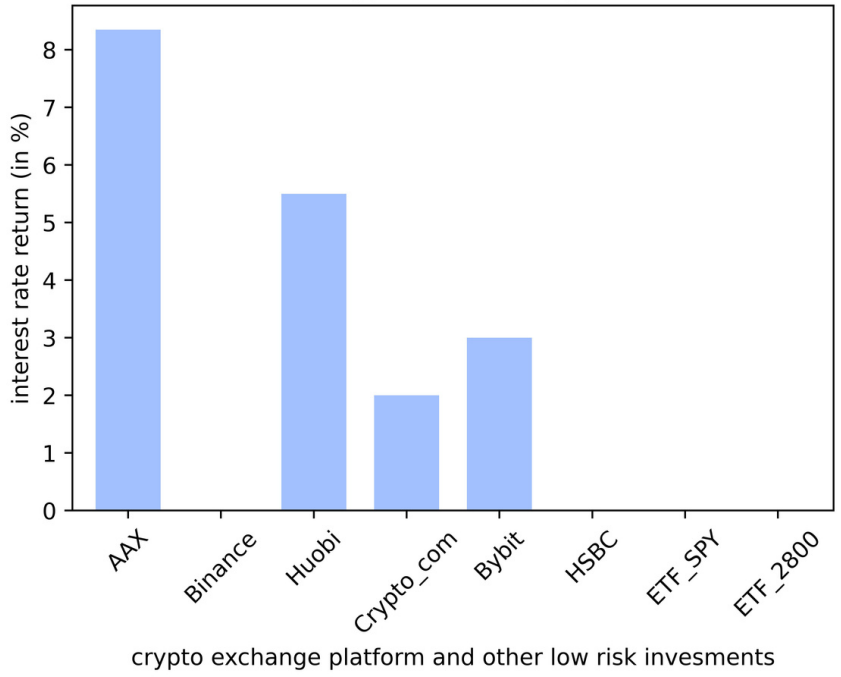
ANALYSIS - FLEXIBLE



- AAX has the hightest APY (6.35%)
  - investors are able to withdraw the USDT anytime
- Earn Stock Price Differences and dividend
  - HSBC/ETF_SPY/ETF_2800

ANAYLIS - FIXED (14 DAYS & 30 DAYS)

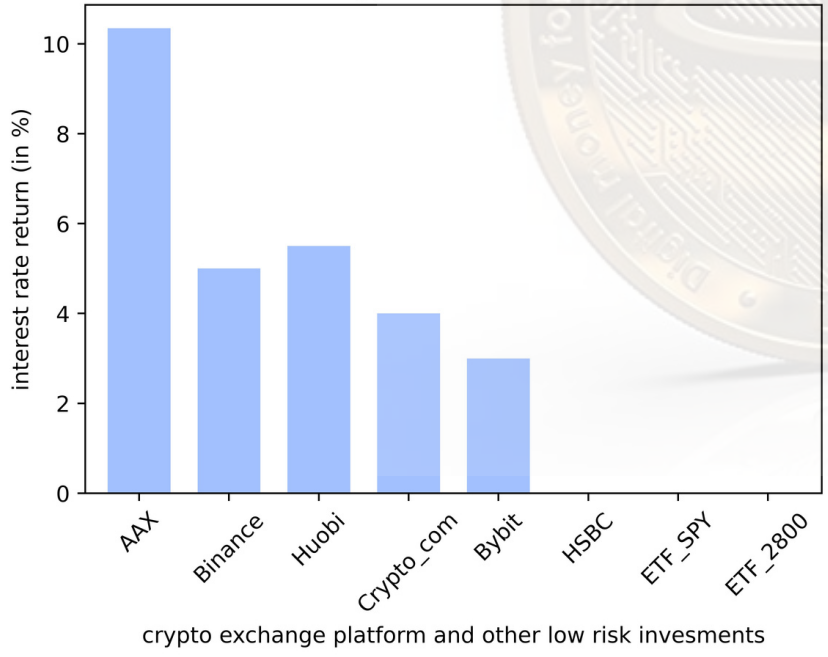
Flexible Interest Return from different crypto exchange platform and other low risk invesments



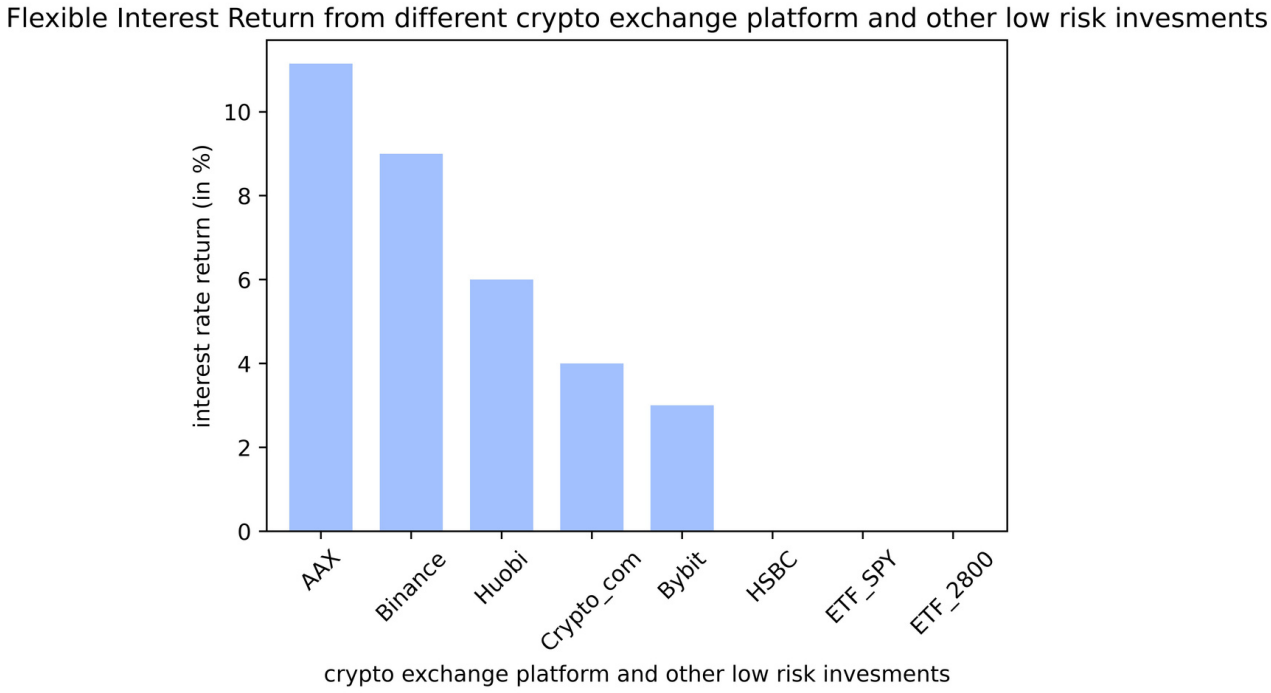
- FIXED 14 DAYS STAKING
  - AAX has the hightest APY (8.35%)

- FIXED 30 DAYS STAKING
  - AAX has the hightest APY (10.35%)

Flexible Interest Return from different crypto exchange platform and other low risk invesments

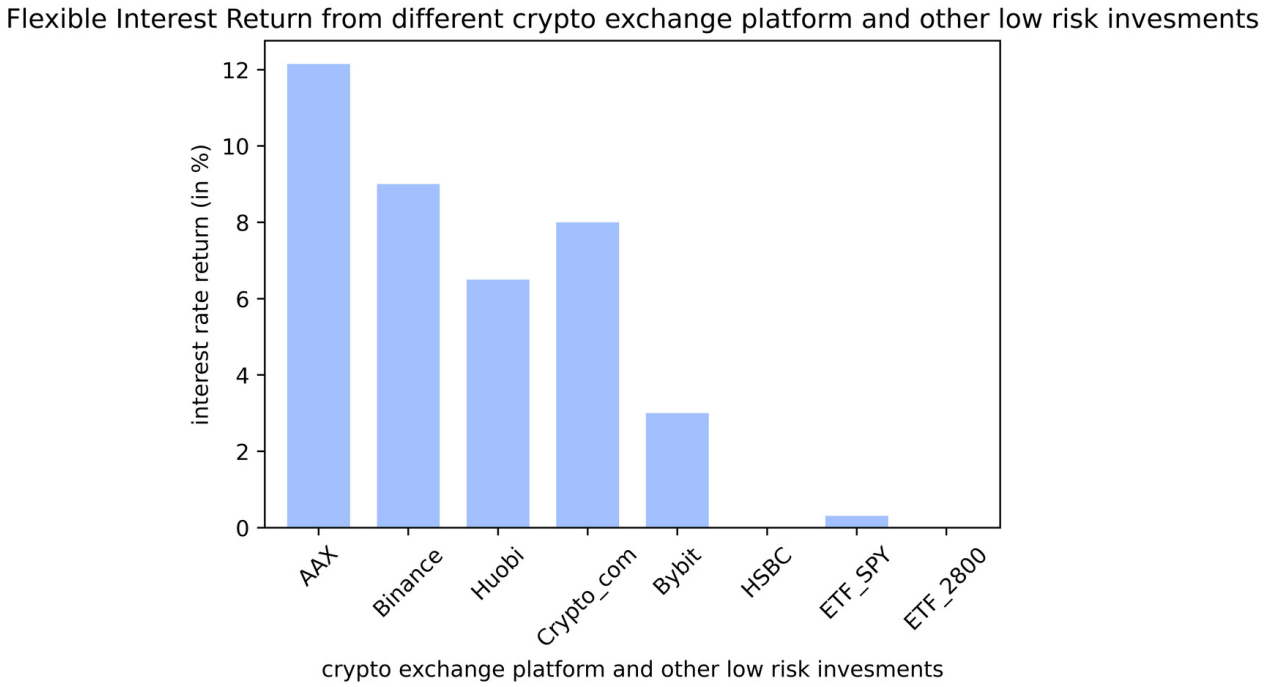


ANALYSIS - FIXED (60 DAYS & 90 DAYS)



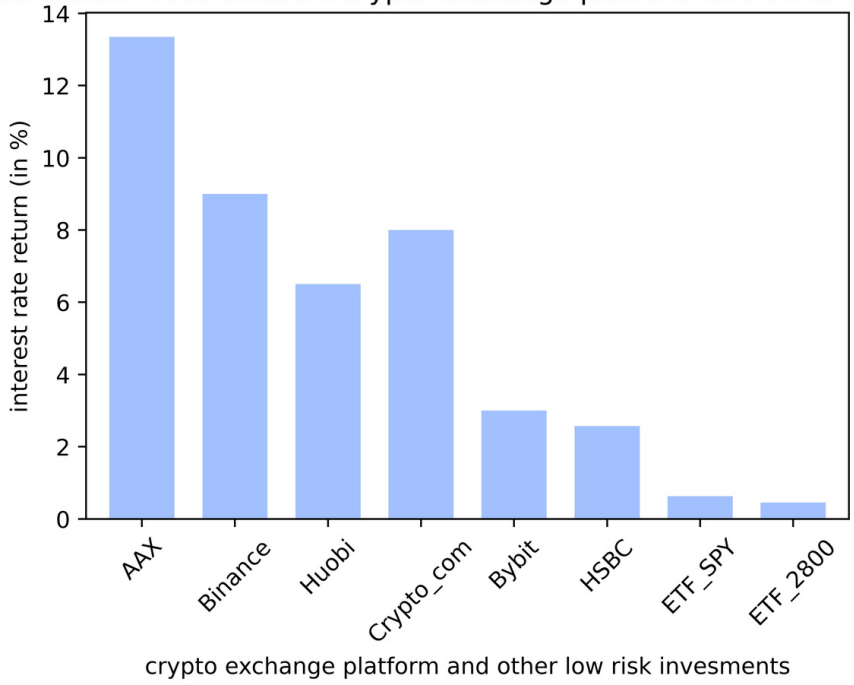
- FIXED 60 DAYS STAKING
  - AAX has the hightest APY (11.15%)

- FIXED 90 DAYS STAKING
  - AAX has the hightest APY (12.15%)
- ETF_SPY > HSBC & ETF_2800



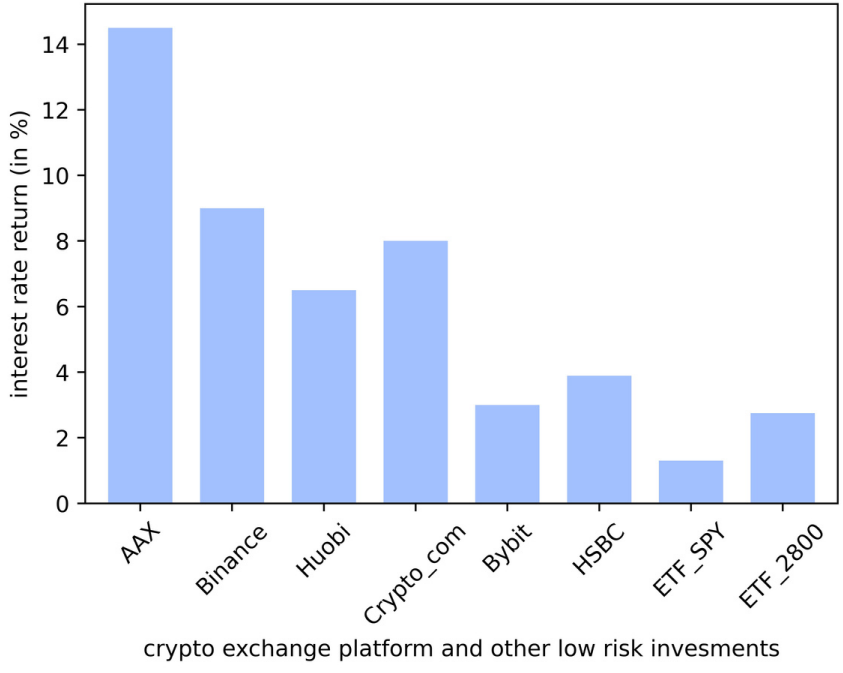
ANAYLIS - FIXED (180 DAYS & 360 DAYS)

Flexible Interest Return from different crypto exchange platform and other low risk invesments



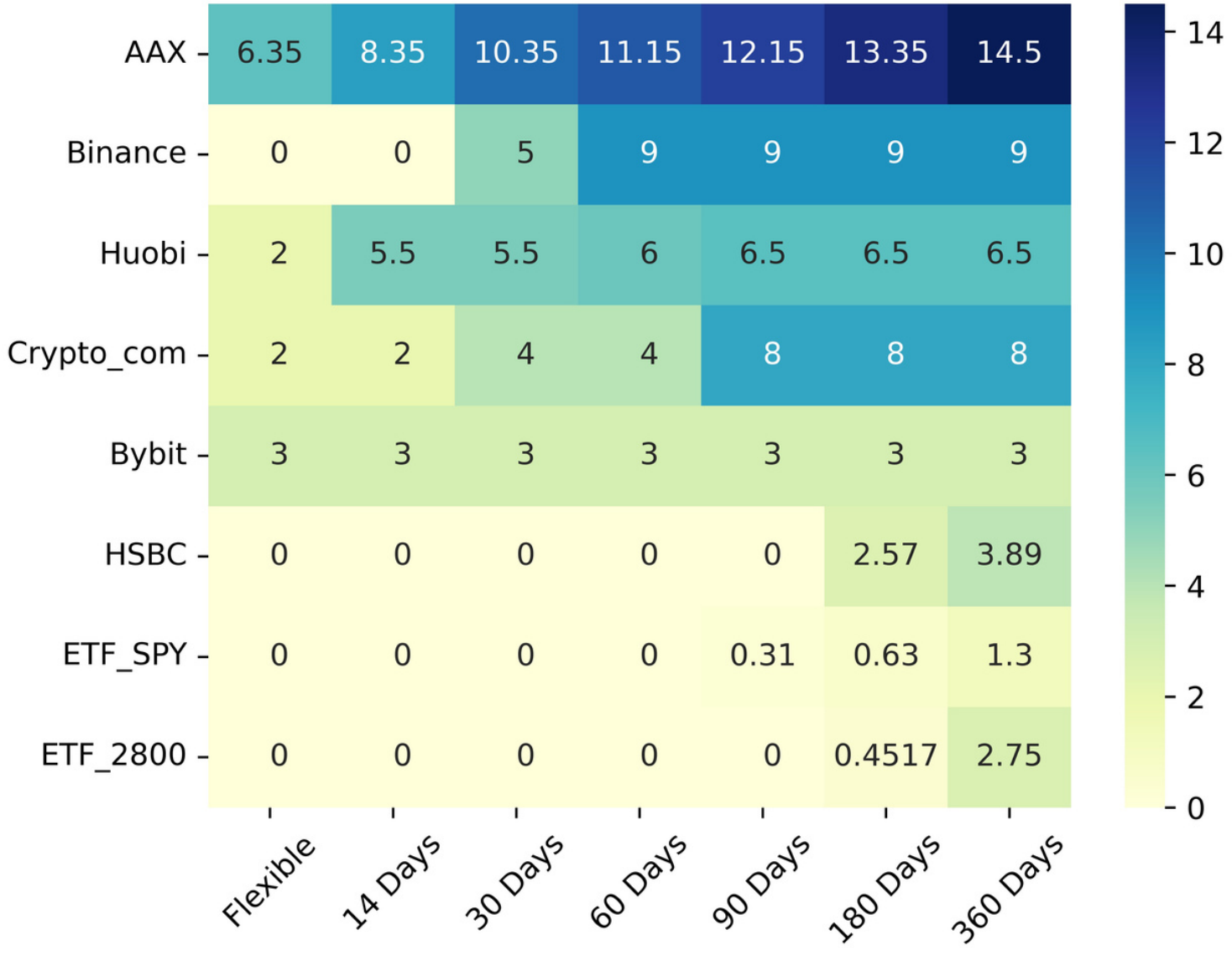
- FIXED 180 DAYS STAKING
  - AAX has the hightest APY (13.35%)
- HSBC>ETF_SPY>ETF_2800

Flexible Interest Return from different crypto exchange platform and other low risk invesments



- FIXED 360 DAYS STAKING
  - AAX has the hightest APY (14.5%)
- HSBC>ETF_2800>ETF_SPY

ANAYLIS - HEATMAP



CONCLUSION

- For those potential investors who have no/less investing experience, AAX exchange has the highest interest rate compare with other platforms and ETFs. Therefore, we recommend opening account in AAX exchange

- However, AAX has a maximum deposit limit at 30,000USDT. We would suggest investors with more capital diversify their funds to other platforms.

- Other crypto exchange platforms are recommended to know more about their competitors and the opportunity cost of investors and to improve competitiveness

CHALLENGES

- Need to use different methods to scrape data from website with different structure
- Webpage box pop-up and blocks the scraping process
  e.g accept cookies settings
- Data share same position in the webpage, cannot call by findall function
- Lagging would interrupt the scraping process and leading to error

LIMITATION

- The interest return may change time to time
- The user interface would be improved by exchange platforms

NEXT STEPS

- Provide future trend for more insights
- Provide staking return analysis for other cryptocurrencies
- Provide more information about the reliability of the exchange platform according to their rank (by trade volume, liquidity, users confidence)

Thank you for your time!

Q&A

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