

**REVIEW OF CRYPTO EXCHANGE AND PLATFORM**  
**CAPSTONE PROJECT SUMMARY**

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## INTRODUCTION

The connection between Binance and Binance US has attracted attention and scrutiny in the cryptocurrency community. The Commodity Futures Trading Commission (CFTC) has filed a lawsuit against Binance, accusing the platform of dishonest marketing and trading activities involving US customers. The CFTC alleges that Binance actively targeted the US market, disregarding legal obligations and assisting customers in bypassing access controls. The first part of the work is dedicated to developing a quantitative framework aimed to detect possible connections between offshore cryptocurrency platforms and their representation in the US [CFTC].

The online platform X offers a comparison service and evaluates brokers using a set methodology of over 500 criteria in 9 key areas. It is committed to maintaining unbiased rankings and scores, so sponsorship deals and partnerships with brokers do not influence the rankings. The platform has become a trusted source of information in the industry and features dozens of brokers and financial service providers each month. One of the platform's goals is to expand the number of reviews for crypto exchange platforms to ensure it remains up to date. So, given mentioned above, the second part of the work is by using the methodology offered by company X to develop a deep analysis of the crypto exchange platform Gemini.

### **Part 1. Quantitative framework to detect the possible relationship between offshore cryptocurrencies and their representation in the US**

The research focuses on two cryptocurrency exchange platforms with their main registered office offshore and a legal daughter company registered in the US. The paper specifically examines Binance US, as FTX US filed for bankruptcy in March 2023 [Reuters]. The analysis utilizes data from three main sources: the official website of the company, real-time data collected through API documentation, and cumulative data sources like Coingecko and Coin Maker. The selection of the crypto exchange platforms is based on their top 24-hour trading volumes, and the BTC/USDt and ETH/USDt tickers are chosen as they are the top traded volume tickers on Binance US [Coingecko].

The assessment involves several inputs, including the daily trading volume of each platform, data from the trading terminal for metrics calculation, the daily volume of the selected ticker on each platform (e.g., Btc/Usdt on Binance), and the spread for each ticker on each platform. Data is gathered using WebSocket technology and Python code, with a limitation being the restricted access to the full-picture data through the platform API. Additionally, the research includes an examination of cryptocurrency reserves, utilizing data from CoinGecko's Proof of Reserves list [Coingecko]. At the time of writing the report, reserves data from 20 crypto exchange platforms were available.

#### **1. Comparison of the trading data and reserves data**

A recent discovery has revealed a discrepancy between Binance.US's reported trading volumes and its wallet holdings. As of May 7th, 2023, Binance.US's known wallets held around \$586.2 million in assets, with Ether being the main category at 55.88%. However, the largest trading shares on the platform were for the BTC/USD pair at 46.6% and the ETH/USD pair at 22.6%. This pattern of major trading pairs not being backed by the reserves was observed over 14 days [Coingecko].

In contrast, the offshore company Binance held \$77.07 billion in reserves, with BNB (Binance coin) accounting for 26.74% of the total reserves, followed by Tether USD at 19.11%, and Bitcoin at 17.48%. The largest trading shares belonged to the BTC/USDt pair at 17.8% and the ETH/USDt pair at 13.4%. Interestingly, the ETH/USDt pair was traded close to the amount of the reserve, sometimes exceeding the trade limits [Coingecko].

#### **2. Patterns of the trading volume for each platform**

An analysis of two weeks' worth of trading volume data reveals a consistent pattern in cryptocurrency exchanges, with daily trading volumes increasing and decreasing. However, a noteworthy observation emerges when examining the data specifically from Binance and Binance US. On May 4th and 5th, these platforms exhibit outliers, deviating from the trading volume patterns observed on other exchanges. This discrepancy implies the presence of non-market trades reported on the platform, indicating potential irregular activities.

Given that Binance is the largest crypto platform in terms of trading volume, these outliers raise concerns about possible irregularities within the platform. Moreover, the synchronized movement observed between Binance and Binance US suggests a potential connection between the two companies, both legally and practically.

### **3. Patterns of each ticker trading pair**

The spread, measured in basis points (bbps), reflects the liquidity available on a trading platform by representing the difference between the bid and ask prices. Typically, higher trading volumes lead to tighter spreads, indicating greater liquidity. However, Binance US shows a significantly larger spread compared to its trading volumes, raising suspicions of manipulative practices like wash trading. This suggests a potential lack of transparency and integrity on the platform, requiring further investigation.

### **4. Comparison of the ticker trading pattern and the corresponding spread**

Most crypto exchanges follow a pattern where higher trading volume reduces the spread, indicating increased liquidity. However, Binance stands out with its exceptionally high trading volume, raising questions about its practices. Meanwhile, Binance US deviates by having a larger spread compared to its competitors, suggesting potential irregularities. Further investigation is needed to ensure transparency and fair market practices.

## **Part 2. A review of the crypto exchange platform – Gemini**

Gemini Trust Company LLC is a cryptocurrency exchange founded in 2014 by Tyler and Cameron Winklevoss. It allows users to buy, sell, and trade over 100 assets and offers additional products and services like a crypto rewards credit card, hot wallet, and crypto payments for retailers. Gemini places a strong emphasis on security and compliance, setting it apart from competitors, despite offering fewer cryptocurrencies. It recently became the first crypto exchange to receive SOC 2 certification, ensuring high levels of security and compliance through independent audits.

With 900 employees and a client base of 13.6 million, Gemini is a leading crypto exchange. However, its daily trade volume is significantly lower compared to its main competitor, Coinbase. While Gemini offers competitive trading fees and low withdrawal fees, concerns have been raised about the security of its newly launched Gemini Foundation for derivatives trading outside the US, UK, and EU.

## **CONCLUSION**

Analysis in Part 1 indeed revealed suspicious trading volumes with respect to competitors.

Analysis in Part 2 deeply assesses the Gemini Crypto exchange platform.

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