Cursory Forensic Analysis considering the FTX Collapse….
Uh Oh!

November 11, 2022

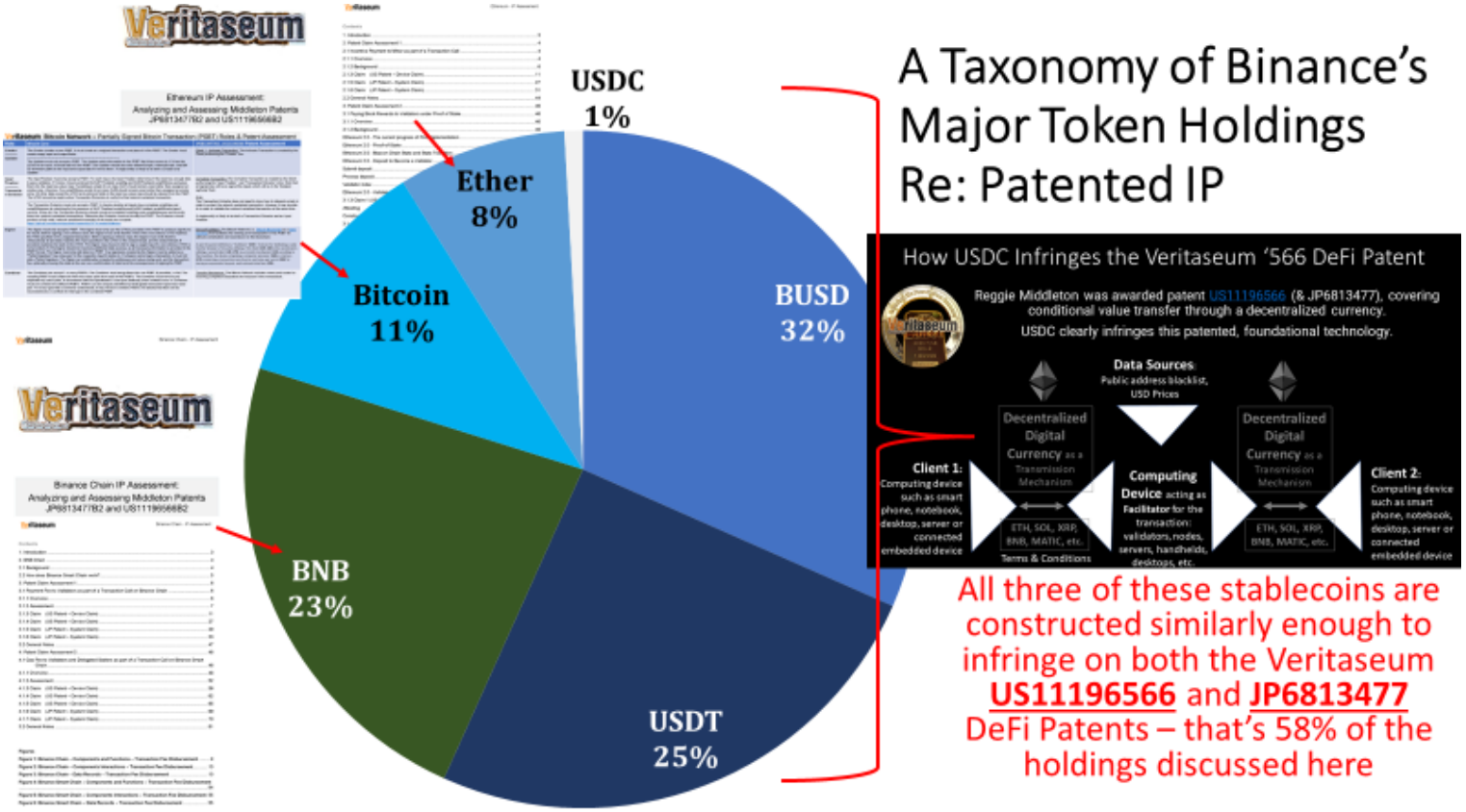
From the research team at

Introduction

Currently headquartered in the Cayman Islands, Binance was founded by Changpeng Zhao and Yi He, in 2017. It has 40 office locations across 38 countries and operates in 180 countries. Its revenue streams include Trading Fees, Annual Fees, Spreads, Interchange Fees, and Interest on Loans. Notably, it mints two coins – BNB and BUSD

Analysis

In light of the current events surrounding FTX, Voyager, 2 Arrows Capital, Celsius and BlockFi (among many other centralised trading entities), trust in the crypto market has been deeply affected, and based on our initial understanding of the following factors, the coins BNB and BUSD are considered risky, and the credit quality of Binance cannot be confidently ascertained:



- It should be noted that the top 10 holders for both coins account for more than 94% of the holding, which suggests that the **demand for the coin is low**. Notably, of the top 10 biggest holders, Binance holds 97.5% and 93.5% of BNB and BUSB, respectively; This reflects huge **concentration risk. Again, Binance mints both of these coins, similarly to FTX and the FTT token.**
- Of USD69.3 billion of the coins held by Binance in total (as far as we were able to ascertain from public sources), coins that they actually mint themselves account for 54.7% (USD37.9 billion), i.e., BNB and BUSD. And considering the concentration risk combined with the fact that they are the world's largest crypto exchange, they can effectively control the price and hence the (mark-to-market) value

- Analyzing the recent few transfers made for BNB, astonishingly, Binance made 99.96% of the purchase on significant volume. *One more time – the entity that:*
    - *mints the BNB,*
    - *controls the largest share of the global crypto trading market,*
    - *and holds ~98% of the minted BNB (with no backing other than the promise of discounted trading fees on their platform),*

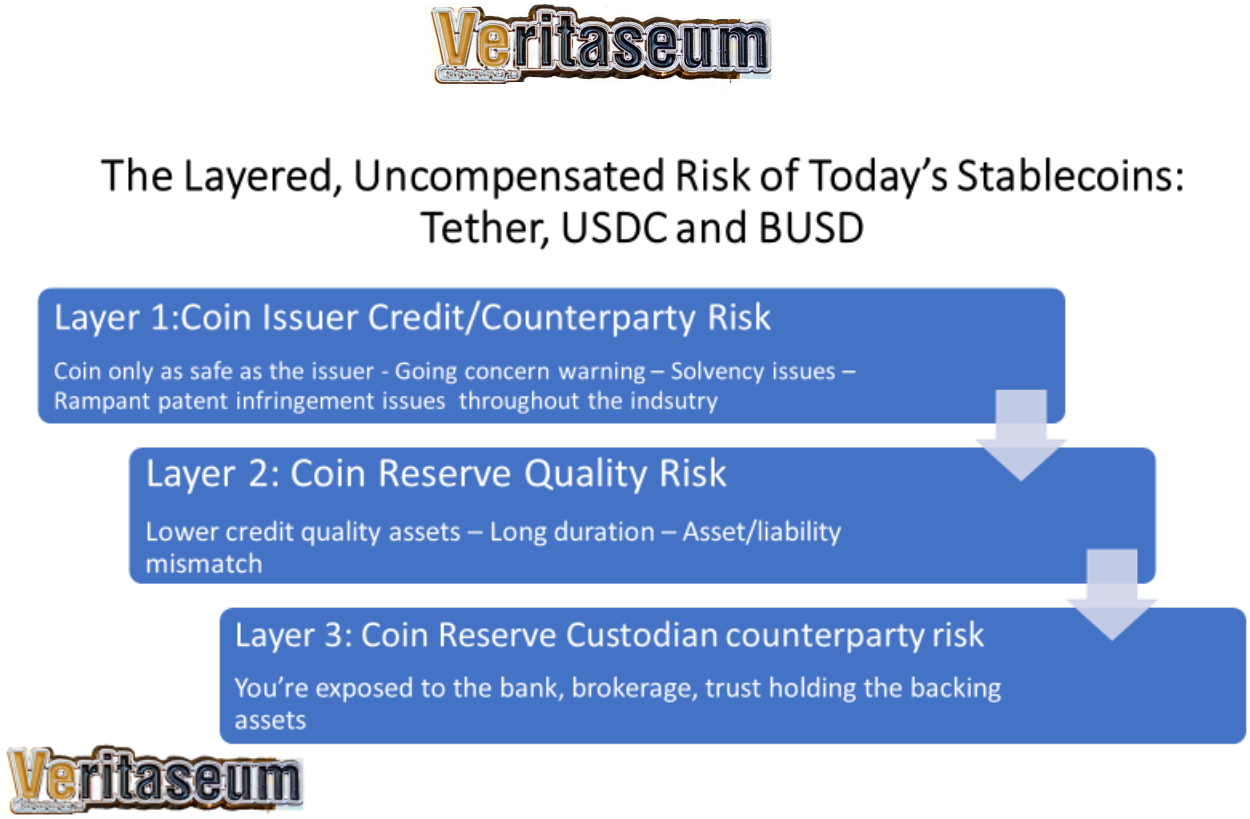
      likely carries these tokens as assets on its balance sheet to be used as collateral for loans and hypothecation. Think about it! And you thought FTX was bad???
- In June 2022, an inquiry was launched against the legality of Binance's 2017 ICO of BNB tokens. The ICO was launched to help in the build-up of business. Binance's ownership and control of cryptocurrency ecosystem market makers Sigma Chain and Merit Peak were investigated in the inquiry. There is a possibility that Binance CEO CZ owned the majority of these market-makers, and using his control over them, the price of the token could have been artificially raised. Once the prices shot up, the company could have shown inflated assets on its books and raised funds from investors. ***We do not have evidence or proof of this, so at this point it is simply hypothetical and should be considered as such.***

A word On the Rampant, Uncompensated Risks of Today's Stablecoins

The big crypto exchanges such as Binance, Coinbase, FTX, Gemini, Kraken and their peers hold large portions of their balance sheet in stablecoins, as well as induce their customers to transact in them instead of USD or other government fiat. Put simply, stablecoins are used as replacements for government issued fiat, despite the fact that they are far from it.

The reason why stablecoins are pushed by exchanges is because they are a profit center. USD (or other sovereign-issued fiat), usually produces an interest revenue stream. It carries no patent infringement risk, and has no inherent counterparty and/or credit risks. The problem is, exchanges don't make money off of fiat, so they produce their own currency, devoid of the ability to generate interest payments to the holder. In doing this, the exchange, itself, benefits from the interest income while the token holder receives zilch. This arbitrage is a popular revenue driver for the big exchanges that generate enough volume to move the stablecoins en masse. Gemini, Binance, Coinbase, etc. They take your USD, invest it (by taking risks with you capital) and pay you nothing in return.

This lack of prudentialism (assuming risk without compensation) is compounded by the fact that the risks that come with the holding of today's stable coins are many and material. Contrary to holding USD, Stablecoin holders are exposed to the counterparty/credit risks of the coin issuer, the coin custodian, the reserve manager, the reserve custodian and reserve asset quality. What does the stablecoin buyer get compensated in return for the assumption of all of this layered and compounded risk? **Nothing! The assumed risk compensation goes to the stablecoin issuer which is either the exchange or is in cahoots with the exchange.**



How Real Are These Stablecoin Risks?

The top three stablecoins are basically constructed identically, thus we will use Circle's USDC (in cahoots with Coinbase, currently the subject of a $350+M patent infringement suit that they are not disclosing to their customers or investors) as an example that easily also applies to Tether (in cahoots with Bitfinex), Gemini's own GUSD and Binance's own BUSD.

Issuer Risk: Circle, as the co-issuer of USDC, has received a "going concern" warning from their auditor. 'Nuff said We delved into Circle's circumstances on the BoomBustBlog, see it here. Solvency of the issuer is very important, because if the issuer/custodian goes bust, so may your assets.

Other Income *All figures are in USD ('000)*		**The year ended December 31**	
Particulars		**2021**	**2020**
Realized gains on investments		18,010	—
Unrealized gains (losses) on investments		(13,107)	13,221
Change in fair value of embedded derivatives Are these bear hedges? If not, looks fishy. What are liquidity, construction, slippage and tracking looking like? What is the modelling accuracy and input assumptions.		48,032	—
Change in fair value of convertible debt Circle issued >~$400m in convertible notes and lost more than that the same reporting period. There's a malaise going in those books. Stakeholders should REALLY PAY ATTENTION!		(436,803)	(3,489)
Change in fair value of warrant liability		(1,137)	(212)
Gain on treasury stock		—	2,877
Gain on sale of digital assets		5,956	298
Transaction advisory expenses related to convertible note issuance $31.4M fee for a ~$421M note while 100% of issued value was lost? Smells fishy AF!		(31,379)	—
Interest expense and amortization of discount		(4,772)	(3,363)
Income generated from winding down platforms		1,139	2,371
Transitional support income		—	1,061
Loss on equity method investments		(537)	(769)
Rental sublease income		1,320	942
Other, net		(4,483)	755
Total Other income (expense), net		**(417,761)**	**13,692**

As excerpted from last year's report:

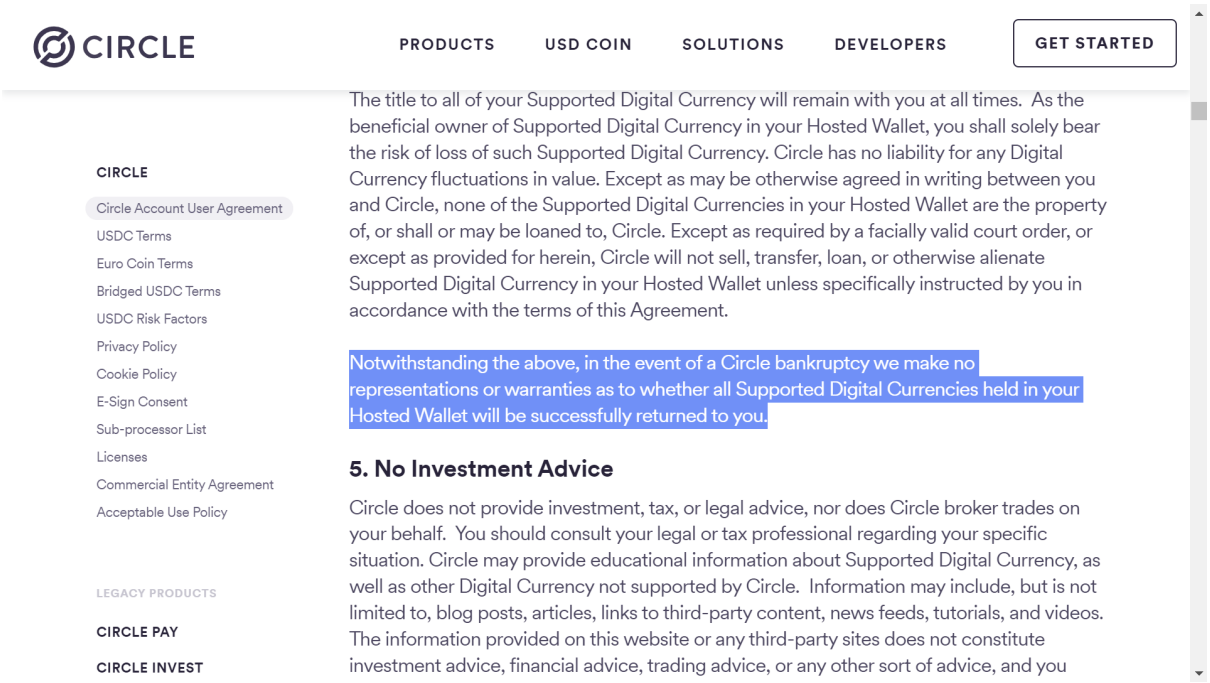
> *Last year **there was substantial doubt of the Company's ability to continue as a going concern**, but that substantial doubt has since been resolved through the issuance of convertible notes. The Company has received significant financing in the form of a convertible note for a total of $441.0 million as of May 2021. The Company believes proceeds received from the financing subsequent to year-end is sufficient to meet the*

As excerpted from Circle's user agreements….

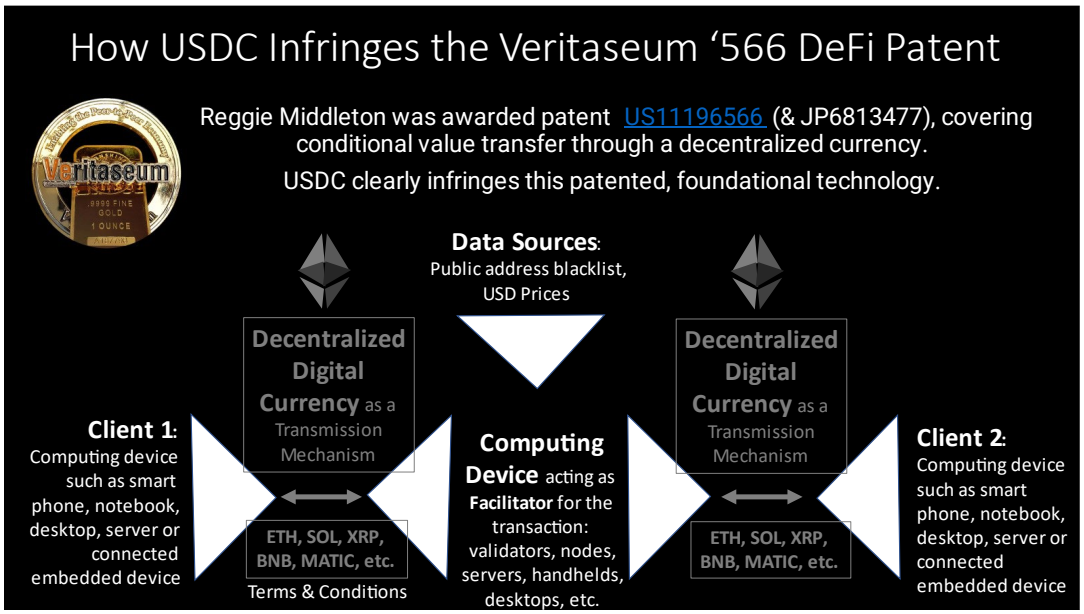
> *"Notwithstanding the above, in the event of a Circle bankruptcy we make no representations or warranties as to whether all Supported Digital Currencies held in your Hosted Wallet will be successfully returned to you."*

This is harrowing statement to agree to, coming from a company that just had a going concern warning, saved by investors to the tune of nearly half billion dollars, just to lose more than that by year end.

Now, Binance appears to be in a better position than Circle, but if you look at the coin holdings (presumably) on their balance sheet, much of that value is arbitrary and ephemeral – thus can disappear in a puff of smoke. Ask FTX and Alameda.



Unlicensed Use of Patented IP: The technology used in all of the stablecoins mentioned above is covered under the Veritaseum DeFi patents US11196566 and JP6813477. Patent holders can potentially win injunctions that prevent the infringer from operating with the patented invention, or extract licensing fees as a condition of operating with the patented invention.



Coin Reserve Credit Quality Risk- This is self-explanatory.

Summary

The analysis suggests an irregularity in the operations, and Binance can synthetically inflate the price of a wide swath of their balance sheet holdings, as they hold a significant quantity of their own tokens on balance sheet that have been arbitrarily priced. This also means that there is less demand for the token than we would deem desirable. Looking at the last few transfers, **the major buyer is Binance buying 99.96% of the blockchain traceable transactions, the same entity that minted the tokens and holds the vast majority of them**. Looking at the recent events in the crypto world, the situation can worsen with a non-zero possibility of bankruptcy

Appendix

Binance Chain IP Assessment:
Analyzing and Assessing Middleton Patents JP6813477B2 and US11196566B2

24th March 2022

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Table 1: Top 10 Holders for BNB and BUSD

Top 10 Holders of BNB Token	Share (%)
Binance 7	52.02%
Binance 8	45.20%
0xf2549fba1da6e17a1e82478a0b0a945adb7416c7	0.27%
0x480234599362dc7a76cd99d09738a626f6d77e5f	0.18%
0xa73d9021f67931563fdfe3e8f66261086319a1fc	0.18%
Binance US 3	0.17%
Binance: BNB Token	0.14%
0x8699cee9cca0f1e2e627059ef7dcd46e9735b9d5	0.08%
0xd041af244d15456aedfab358fa80d6e454f3bd27	0.06%
0x7b2247cb372d34f0f253d92ec88f33317fc5bf12	0.05%
TOTAL	**98.4%**

Top 10 Holders of BUSD Token	Share (%)
Binance 8	63.4%
Binance: Binance-Peg Tokens	23.2%
Binance 7	4.3%
Binance 14	1.6%
Jump Trading	0.6%
Binance 16	0.5%
Binance 15	0.5%
x134750a99286afc269d17eb791b9b670c6c0c91e	0.4%
xe25a329d385f77df5d4ed56265babe2b99a5436e	0.2%
0xf2ae1e05d73f890a6e5eb2b10f96642900774e57	0.2%
TOTAL	**94.8%**

Table 2: List of Recent Trades of BNB Token

Method	Age	From	To	Quantity	As a % of Total
Transfer	6 hrs 47 mins ago	Binance 14	Binance 8	3,789	*38%*
Transfer	7 hrs 7 mins ago	0x18e721913d6679b41b33aba3a7a3425673163044	Binance 14	1,904	*19%*
Transfer	6 hrs 28 mins ago	Binance 14	Binance 8	506	*5%*
Transfer	6 hrs 29 mins ago	0x59ddf9ddd439018a8cf9e6a0cace88cdd7867028	Binance 14	506	*5%*
Transfer	7 hrs 5 mins ago	0x47cf1a03e69277e75ef854361d043e92068268c3	Binance 14	500	*5%*
Transfer	7 hrs 17 mins ago	Binance 14	Binance 8	489	*5%*
Transfer	5 hrs 49 mins ago	Binance 14	Binance 8	378	*4%*
Transfer	6 hrs ago	0x129817d9ddaa24e66e624d418ab0fce168bc0433	Binance 14	276	*3%*
Transfer	7 hrs 3 mins ago	0x1472a75dab22240c7fbc23af33e4926b37074690	Binance 14	185	*2%*
Transfer	7 hrs 2 mins ago	0x013e3bef3929fb43a2eaff72be5d221204e6f6e1	Binance 14	144	*1%*
Transfer	7 hrs 2 mins ago	0x69f1473189373cb36996344bce1bed48a1a36461	Binance 14	109	*1%*
Transfer	7 hrs 2 mins ago	0x76b92982898d88a2736b22bd25e73bf11d41f132	Binance 14	105	*1%*
Transfer	6 hrs ago	0x42c3e6f47a54bc56d61cf417be8d79531f92f3bd	Binance 14	102	*1%*
Transfer	7 hrs 1 min ago	0x3ff35f4e9066c19111b7497248c09f6a88f4b423	Binance 14	90	*1%*
Transfer	7 hrs 1 min ago	0x208f10c0f3bc37e570b411f521e001e154e4d1b6	Binance 14	80	*1%*
Transfer	7 hrs 1 min ago	0xfb4e17ad63d2f4c3cb99d02edaa34c73db08e01d	Binance 14	72	*1%*
Transfer	7 hrs ago	0x0e7da883f9ac076494b96563e95c12897531091b	Binance 14	68	*1%*
Transfer	7 hrs ago	0x186d1a0e32f48a5d1700b69c59582be3909be233	Binance 14	66	*1%*
Transfer	7 hrs ago	0x497b5650754e3bc3d50582cfc25546faf19360e1	Binance 14	54	*1%*
Transfer	7 hrs ago	0x9151cde9120415aa0773064120836318aaa6b6a5	Binance 14	52	*1%*
Transfer	7 hrs ago	0xbb06241d20f3caf811ccb9b43cf2800fb6ec6e7f	Binance 14	49	*0%*
Transfer	7 hrs ago	0x10ef8cd54b4645a4bd5bad613621b77ae326b40d	Binance 14	47	*0%*
Transfer	7 hrs ago	0x126bc467f08b63079cf0ffc5842ab288fdf5624f	Binance 14	41	*0%*
Transfer	7 hrs ago	0x196b10359d490637e3a77adec8418f179b7a2e9f	Binance 14	37	*0%*
Transfer	6 hrs 59 mins ago	0x31b87cf8adcfa832f46c0aa41665e2353a19e9de	Binance 14	32	*0%*
Transfer	6 hrs 59 mins ago	0x7944a9801220ae5fb4d94181abd7a6e685fe794c	Binance 14	30	*0%*
Transfer	6 hrs 59 mins ago	0x109faa90317f31ffefb4c6bdd6920e9c8e13bebf	Binance 14	25	*0%*
Transfer	6 hrs 59 mins ago	0x0bb4a7f41da5c266adf30cb3df674c328049261e	Binance 14	25	*0%*
Transfer	6 hrs 59 mins ago	0x0f68d06ed23f58f0add9e02b0740ad2eb43edcef	Binance 14	24	*0%*
Transfer	6 hrs 59 mins ago	0x4d19ca3cfa6401ed58fdb91cf0399fd38b32e581	Binance 14	11	*0%*
Transfer	6 hrs 59 mins ago	0x055cc65d2d231a9fbe1f7b425476e5b4257c4e2e	Binance 14	10	*0%*
Transfer	6 hrs 58 mins ago	0xc1d5c4cb6dbeddcf1fd37f57c0168d3f2b66f3a5	Binance 14	8	*0%*
Transfer	6 hrs 58 mins ago	0x05dd83a702dd31cc03f004f17f532195ef36d33b	Binance 14	5	*0%*
Transfer	6 hrs 58 mins ago	0xa05cb04bbe224307fe21e69e677c2c432ca6ad2a	Binance 14	5	*0%*
Transfer	6 hrs 51 mins ago	0x1a0570b0083b891207f8a64a990da39362c09af0	Binance 14	5	*0%*
Transfer	4 hrs 28 mins ago	Binance 14	Binance 8	4	*0%*
Transfer	4 hrs 30 mins ago	0x8006e09ecf4d17b94f5d0efe692a13bf5c93af97	Binance 14	4	*0%*

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Transfer	7 hrs 8 mins ago	0xcb8db068389bcfeb653167ad59bd676b673dd338	Binance 14	4	*0%*
Transfer	7 hrs 20 mins ago	0x1c5f652c2ba61e1977936924235c07151aadef79	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x74954c67e960ab7baff56bda9df891ebe20bfa33	Binance 14	3	*0%*
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Transfer	7 hrs 21 mins ago	0x76e1b4c89e864a0114a46ee5fb1e7fc94f3a0e51	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x7b63df1dcf0fb9cf9760178492bfda18fcc80db7	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x22b335b4393f572bd322e69f4468aa97bfbb7b0a	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x704a273dbd227b51713d336d6aefec97e1a95e82	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x29975417d25314b4128736a5270cc1a6c2ee18fd	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x001262d2701fe89a741e0485eedd5f0a6a3e74c6	Binance 14	3	*0%*
Transfer	7 hrs 20 mins ago	0x002c6ee9aaa437c1a994aaccd19646e30e31dfc3	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x24f04856457072c43430236daf4a14bb62fa0823	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x7cb4ddddc2a755566fd7b8f1ee1a5aed99b1f8c9	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x25e26ab954f90aaf4ca9ce6e0d52232aa1ca192b	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x26f252603042ed54a5aece1cdf921d158754c085	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x2d3dda6865cf71ac0ae1b637c0676dc2d58cc206	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x6c07723d4a0b07eb2e424ecbcefe22294db6aca3	Binance 14	3	*0%*
Transfer	7 hrs 19 mins ago	0x086c94ffd7c3eb0cad4b99cb22b0f95555f34548	Binance 14	3	*0%*
Swap	1 hr 44 mins ago	0xef6fa3307af6ab6ddcc4826c4945041dd5c18d4b	Bancor: Converter 443	1	*0%*
Swap	1 hr 44 mins ago	0x2d7d2ce98e12521888bb3fa946823116d9d4c8b1	0xef6fa3307af6ab6ddcc4826c4945041dd5c18d4b	1	*0%*
Swap	1 hr 38 mins ago	1inch v4: Router	0x2543e9dd96091fb9f608d7471a4214569e17d8fb	0	*0%*
Swap	1 hr 38 mins ago	Bancor: Converter 443	1inch v4: Router	0	*0%*
0xde7b5f9e	1 hr 44 mins ago	Bancor: Converter 443	MEV Bot: 0x000...f56	0	*0%*
0xde7b5f9e	1 hr 44 mins ago	MEV Bot: 0x000...f56	0x8d381481be81184259dd6e3daef415bccf71a610	0	*0%*
0x00f303b8	1 hr 44 mins ago	Bancor: Converter 443	Uniswap V3: BNB 2	0	*0%*
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			6768eea1931e083ce469f20c		
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0x012b00b6	1 hr 33 mins ago	MEV Bot: 0x0ea...000	Bancor: Converter 443	0	*0%*
0x012b00b6	1 hr 33 mins ago	Uniswap V3: BNB 2	MEV Bot: 0x0ea...000	0	*0%*
Transfer	2 hrs 39 mins ago	0x74a423625b67a0016eb47d981532d51a91ee1f83	0x5e1670c97a80816ab65a5a393cc4da5929b44a37	0	*0%*
Multicall	2 hrs 43 mins ago	Uniswap V3: BNB 2	0x74a423625b67a0016eb47d981532d51a91ee1f83	0	*0%*
Execute	46 mins ago	Uniswap V3: BNB 2	0x028c6820becec4c29f4dcf1278bcafb1425db4f3	0	*0%*

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