Huobi Blockchain Big Data Weekly Insights Vol. 4

Authors

Yuming Hubery Yuan
Hai Du
Junjing Shi
Xiao Xiao

huobiresearch@huobi.com

Abstract

All data in this report was captured and analyzed by Huobi Research; please cite the source "Huobi Data Analytics Weekly" for reference.

New data included: Details of Largest BTC Transactions, ETH Large Transactions Monitor, Transaction Volume Distribution of Ethereum.

• **On-Blockchain Data:**

The total BTC trading volume this week was 6.64 million BTC, decreased by 21%. The average transaction volume was 5 BTC, dropped by 22%. Bitcoin transaction fee dropped significantly by 62%, with the total transaction fee reaching 175 BTC. The average transaction fee was 0.00013 BTC, decreased by 64%. There were four large transactions of BTC this week, with the largest one worth 86,000 BTC. The number of extra-large transactions dropped from 1,537 last week to 780. The total transaction volume between 1K and 10K BTC dropped from 3.68 to 1.78 million BTC, decreased the most by 52.4%.

The number of active addresses in ETH dropped from 1.8 to 1.3 million, down by 25.4% in a week. The overall ETH trading volume dropped by 18.5% to 11.4 million ETH. The overall transaction fee rose sharply from 14,000 ETH to 32,000 ETH, and average transaction fee was 0.007 ETH, increased 159%. There was no large transactions of ETH this week, and the number of extra-large transactions also dropped significantly to 58, down by 28.4%.

• **Social Media Data:**

BTC, EOS, and ETH were the top trending cryptocurrencies both in China and overseas; in the Events category, "Risk", "Launch/listed" and "RAM" were the hottest words in China, while "Bot", "Community" and "RAM" were the hottest overseas; in the Exchange and KOL category, "Huobi", "OKEX" and "Li Xiaolai" were the hottest in China, while "Binance", "Coinbase" and "Kraken" were the hottest overseas.

BTC, ETH and EOS were the most active projects on GitHub with the most added and accumulated Stars and Forks. Number of Stars on ETH exceeded that of BTC for the first time in two months. Search trends of major cryptocurrencies varied this week, while search trends of "Smart Contract" and "Blockchain" experienced increased a lot compared to last week across all three platforms: Google, Baidu, and WeChat.

• **Market Trading Data:**

The market experienced a bounce this week, with all top 10 cryptocurrencies, except for TRON (down 2.2% from last week), experiencing drastic gains in price. Cardano experienced the largest price increase of 19.8%. BTC had the smallest volatility rate of 0.0033, while Cardano had the largest volatility rate of 0.008. In general, turnovers of top 10 cryptocurrencies experienced a general decrease, led by TRON (turnover down 33% from the previous week). Similar to last week, there were high correlations among the prices of top 10 cryptocurrencies, which generally exceeded 0.8, with TRON being the only exception.

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1. On-Blockchain Data

1.1 Active Bitcoin Addresses

The number of active Bitcoin addresses this week has rebounded from last week, rising from 3.12 million last week to 3.2 million, ended the three-week decline.
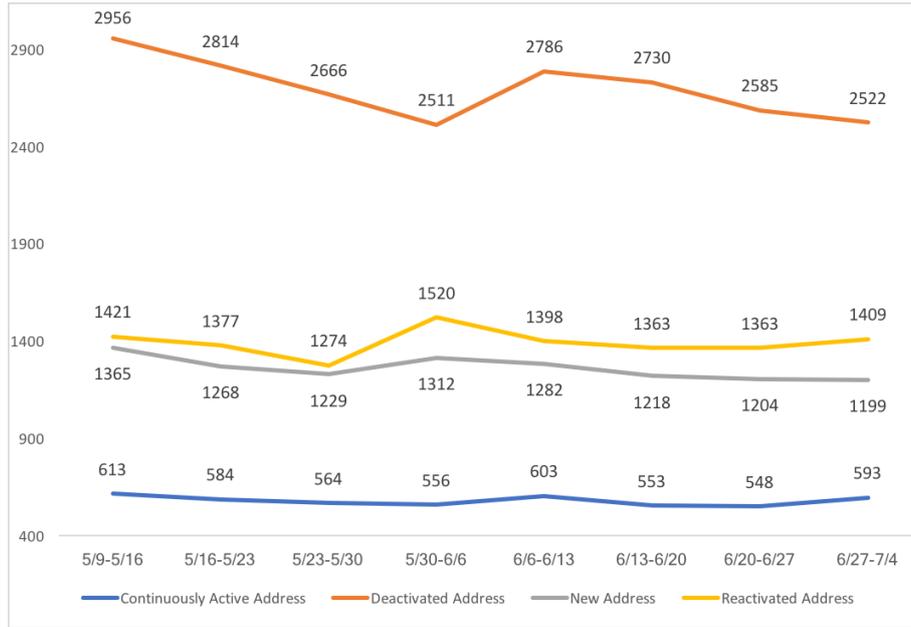
Figure 1: Active Bitcoin Addresses (in thousands)

Data Source: Blockchain Node File, Huobi Research

The number of new addresses created this week is same as last week, while continuously active addresses and reactivated addresses have all increased. The number of persistent active addresses increased from 50,000 to 59,000 last week, accounting for 18.3% of the total active addresses (17.6% last week); the number of new addresses was 1.2 million, unchanged from last week; It was 1.41 million, up 3.68% from 1.36 million last week.

Figure 2: Categorization of Active Bitcoin Address (in thousands)

Data Source: Blockchain Node File, Huobi Research

1.2 Transactions on Bitcoin Network

The overall trading volume on the Bitcoin network was 6.64 million BTC, down 21.4% from 8.46 million BTC last week (BTC overall trading volume has been falling for two consecutive weeks). There are overall 1.33 million transactions, a slight increase from 1.32 million last week. The average amount of BTC per transaction was significantly lower than last week, **down 22.1% from 6.4 BTC to 5.0 BTC.**

Figure 3.1: Bitcoin Trading Volume (thousand BTC) Figure 3.2: Number of Transactions on BTC (in thousands)

Data Source: Blockchain Node File, Huobi Research Data Source: Blockchain Node File, Huobi Research

1.3 Bitcoin TPS

The number of transactions per second on the Bitcoin network was 2.19, slightly increased from last week.
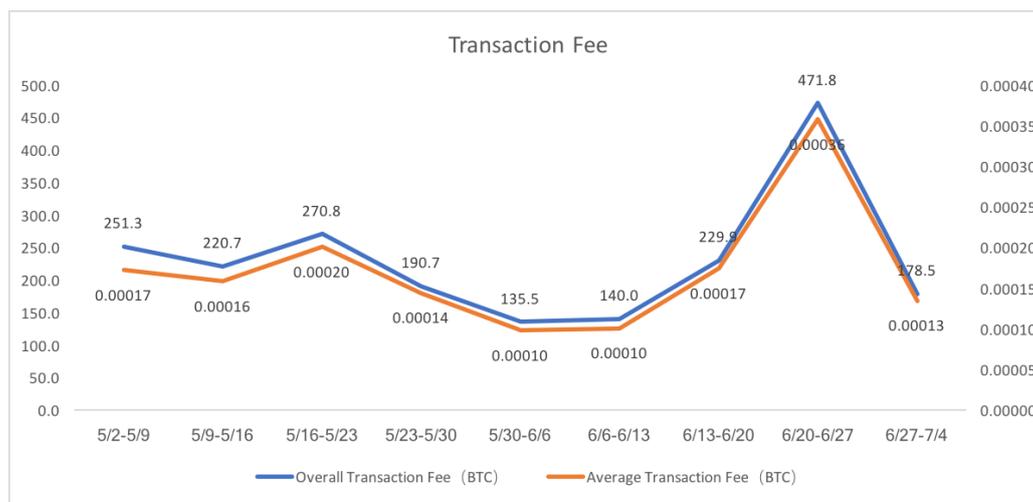
Figure 4: Bitcoin TPS

Data Source: Blockchain Node File, Huobi Research

1.4 Bitcoin Transaction Fee

Bitcoin's total transaction fees dropped sharply from 417.8 to 178.5 BTC, a drop of 62.2% compared to last week. **The average transaction fee per transaction was 0.00013 BTC, down 63.8% from last week**.

Figure 5: Bitcoin Transaction Fee (BTC)

Data Source: Blockchain Node File, Huobi Research

1.5 Concentration of Wealth on Bitcoin Network

Concentration of Wealth on Bitcoin Network has been rising for two consecutive weeks. The Top 10 addresses held 5.99% of all Bitcoins, almost the same as last week. The top 10-100 addresses owned 13.71% of all Bitcoins, also similar to last week. The top 100-1000 address owned 16.65% of all Bitcoins (16.52% last week). As a result, the holding ratios of other addresses have been decreasing consecutively for two weeks.
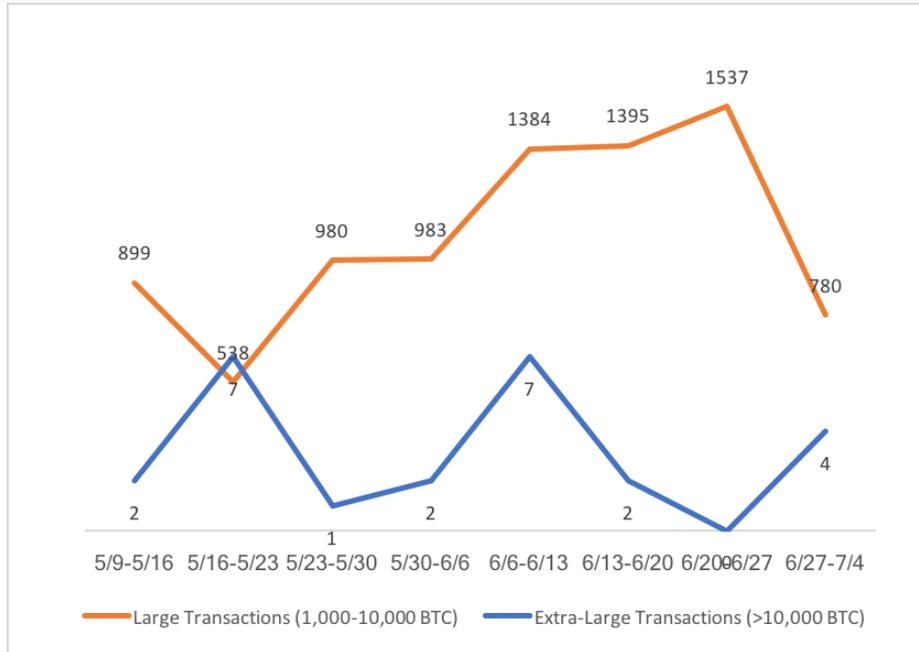
Figure 6: Concentration of Wealth on BTC Network

Data Source: Blockchain Node File, Huobi Research

1.6 BTC Large Transactions Monitor

Huobi Research defines "large transactions" as individual transactions worth

over 10,000 BTC, and "extra-large transactions" as those worth between 1,000-10,000 BTC. This week, there were no extra-large transactions on Bitcoin network; This week, Bitcoin had 4 large transactions, **but the number of transactions has dropped from 1,537 last week to 780, a decrease of 49.25%**, ending the five-week rising trend.

Figure 7: Large and Extra-large Transactions on BTC Network

Data Source: Blockchain Node File, Huobi Research

Details of the four largest transactions on BTC this week are as follows:

Figure 8: Details of largest BTC transactions

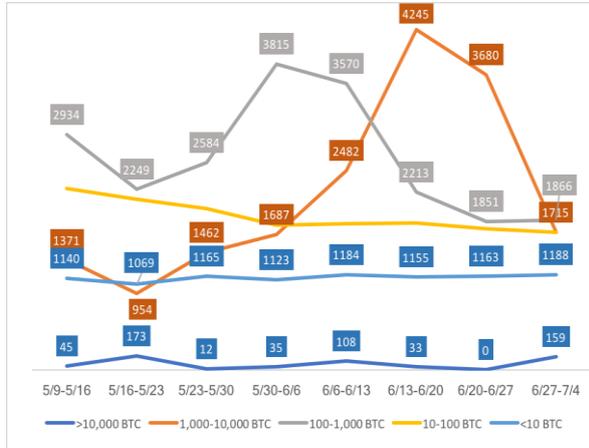| 时间	发送地址	接收地址	转账金额
Beijing Time 2018/7/1 9:29:21 PM	1KAt6STtisWMMVo5XGdos9P7DBNNsFfjx7	183hmJGRuTEi2YDCWy5iozY8rZtFwVgahM	85947.1
Beijing Time 2018/6/28 7:25:24 AM	1Jh8THzSSQBZKYg8in5f6Sowsp3gxjjcpC	12YygZpCEC8VED2oSMQdWCq5xBnHo9ts1Z	48500.1
Beijing Time 2018/7/1 10:59:29 PM	1KYUyiWdVmj7zZnFrJq3Ug5KRUGQRrp3rd	1CMbVZV7xbAiFFauuAf3tgZRhwLKXmMUZL	14837.0
Beijing Time 2018/7/3 7:39:07 PM	3D2oetdNuZUqQHPJmcMDDHYoqkyNVsFk9r	1Kr6QSydW9bFQG1mXiPNNu6WpJGmUa9i1g	10000.0

Data Source: Blockchain Node File, Huobi Research

1.7 Transaction Volume Distribution of Bitcoin

Bitcoin's trading volume in this week's 1-100BTC and 100-1K BTC range was almost the same as last week. The transaction amount of 1K-10K BTC dropped from 3.68 million BTC last week to 1.72 million BTC, a decrease of 52.4%. The 4 extra-large transactions on BTC this week worth 160,000 BTC altogether. From the percentage distribution, most of the transaction amount this week
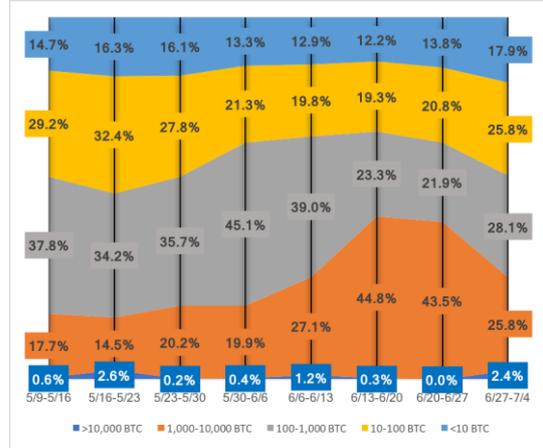
worth less than 1K BTC. The total transaction amount was 71.8%, which was 15% higher than last week's 56.8%.

Figure 9.1: Transaction breakdown by volume

Data Source: Blockchain Node File, Huobi Research
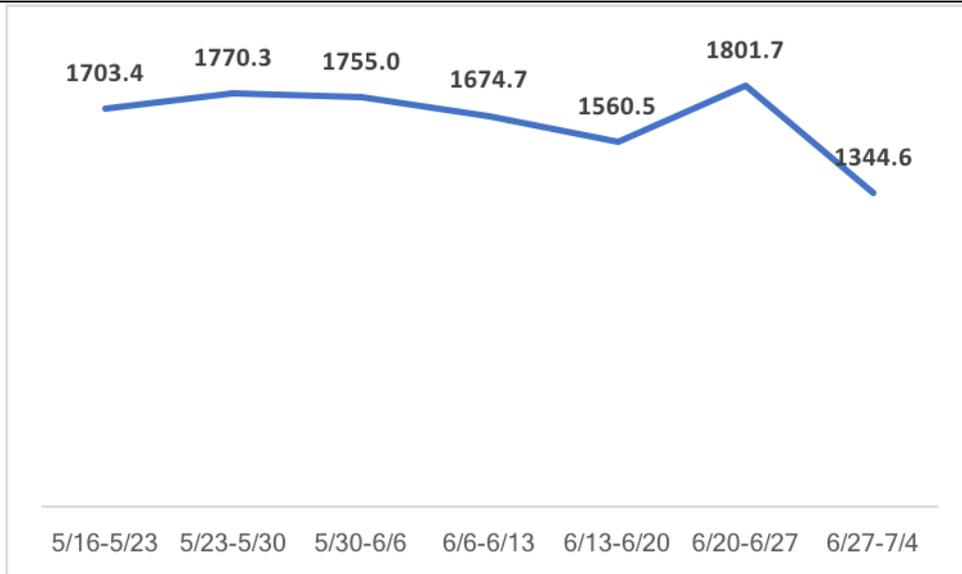
Figure 9.2: Weekly BTC transaction distribution

Data Source: Blockchain Node File, Huobi Research

1.8 Active Ethereum Addresses

The number of active addresses in Ethereum dropped sharply this week, from 1.802 million to 1.345 million, down 25.4%, the lowest in the past two months.

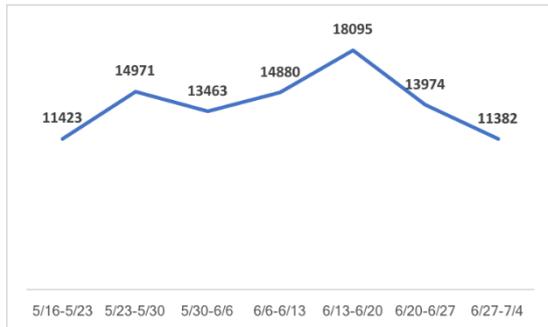Figure 10: Number of Active Ethereum Addresses (in thousands)

Data Source: Blockchain Node File, Huobi Research

1.9 Transactions on the Ethereum Network

The transaction volume on the Ethereum network dropped sharply to 11.38 million ETH last week, down 18.5% from last week and falling for two consecutive weekly. Number of transactions on the Ethereum network this week was 4.57 million, down 14.2% from 5.33 million last week. The average transaction volume was 2.49 ETH, down 5% from last week's 2.62 ETH.

Figure 11.1: Overall Trading Volume on ETH (thousand ETH)

Figure 11.2: Number of Transactions on ETH (in thousands)

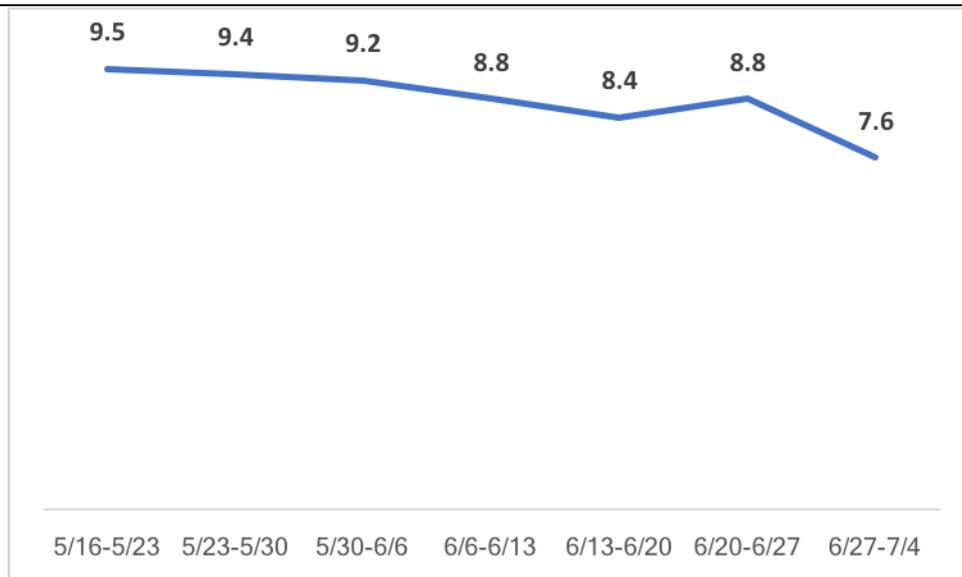Data Source: Blockchain Node File, Huobi Research

Data Source: Blockchain Node File, Huobi Research

1.10 Ethereum TPS

This week, Ethereum's average transactions per second was 7.6, down 13.6% from last week, the lowest in the past two months.
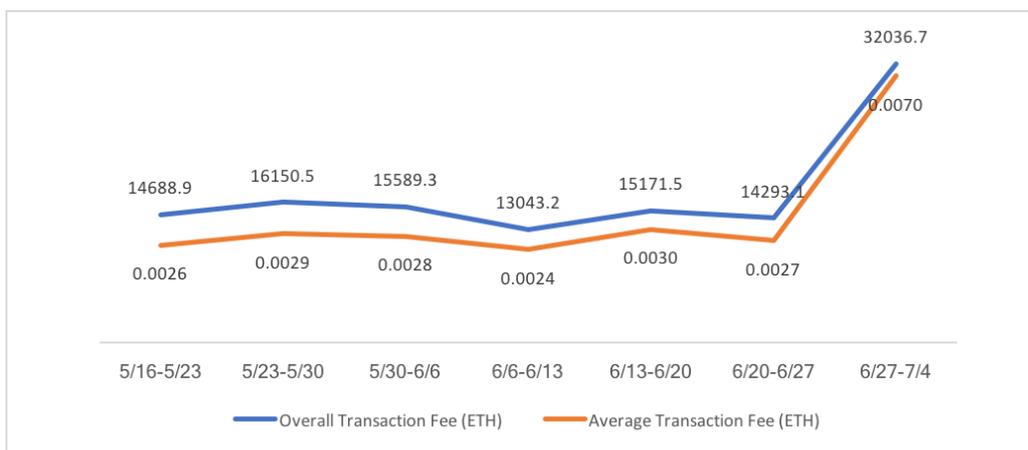
Figure 12:Ethereum TPS

Data Source: Blockchain Node File, Huobi Research

1.11 Ethereum Transaction Fee

This week, Ethereum's total transaction fee increased significantly from last week, from 14,000 ETH to 32,000 ETH. The average cost per transaction was 0.007 ETH, 159% more than that of last week.
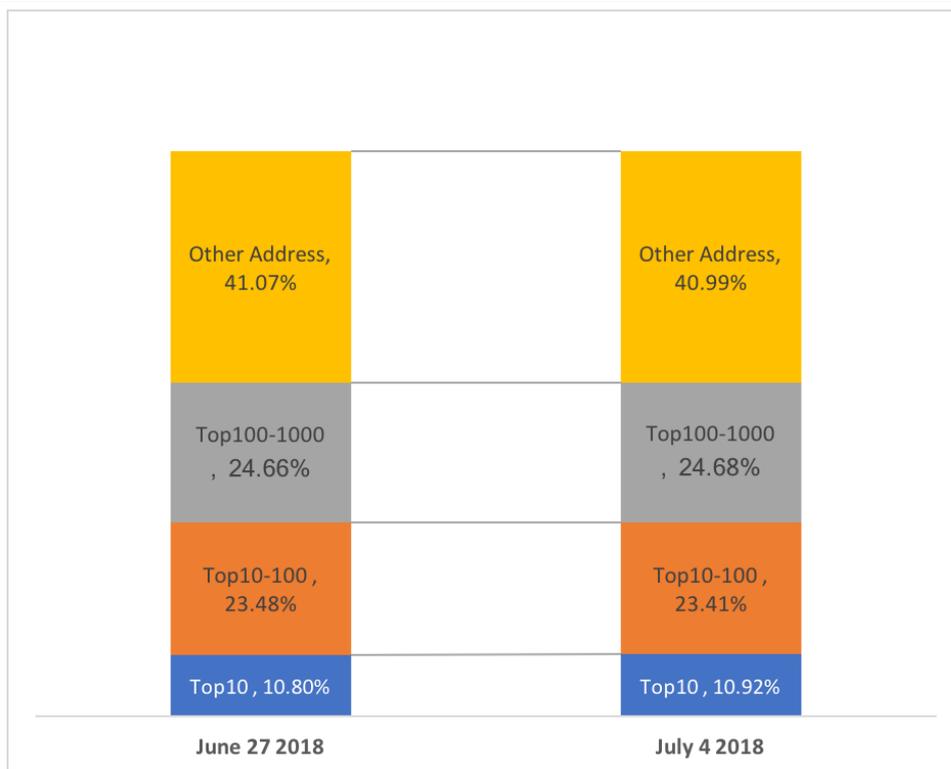
Figure 13: Ethereum Transaction Fee

Data Source: Blockchain Node File, Huobi Research

1.12 Concentration of Wealth on Ethereum Network

Distribution of wealth on Ethereum network this week was slightly more concentrated than last week. The top ten addresses held 10.92% of all ETH, up 0.1% from last week's 10.8%; **non-top 1000 ETH addresses altogether held 40.99% of all ETH, down 0.08% from 41.07% in the last week.**

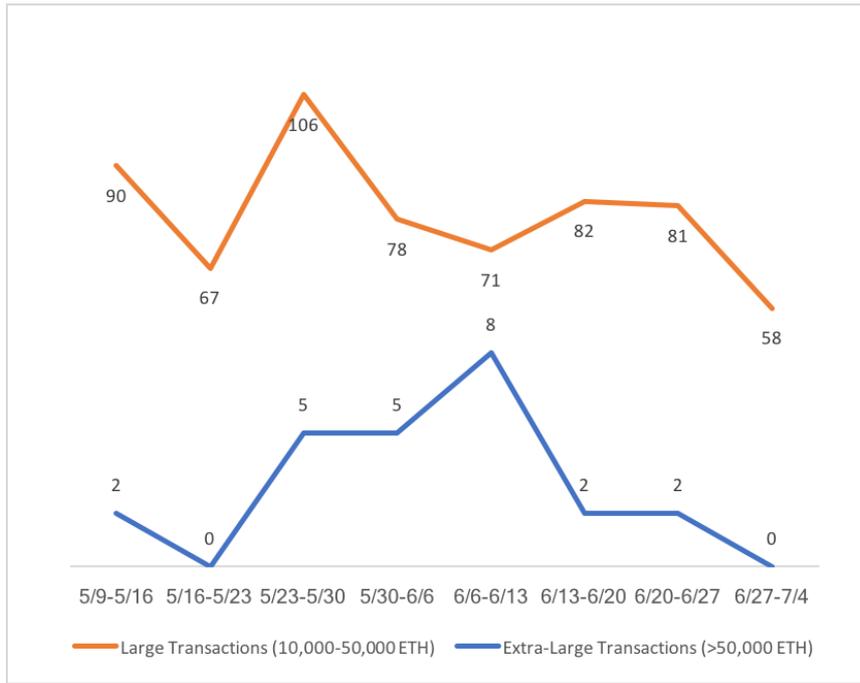Figure 14: Concentration of Wealth: BTC vs. ETH

Data Source: Blockchain Node File, Huobi Research

1.13 ETH Large Transactions Monitor

Huobi Research defines "extra-large transactions" as individual transactions worth over 5,000 ETH, "large transactions" as those worth between 1,000-5,000 ETH, "other" as those worth under 5,00 ETH. This week, there were no extra-large transactions on ETH network, and the number of large transactions decreased 28.4% from 81 last week to 58.

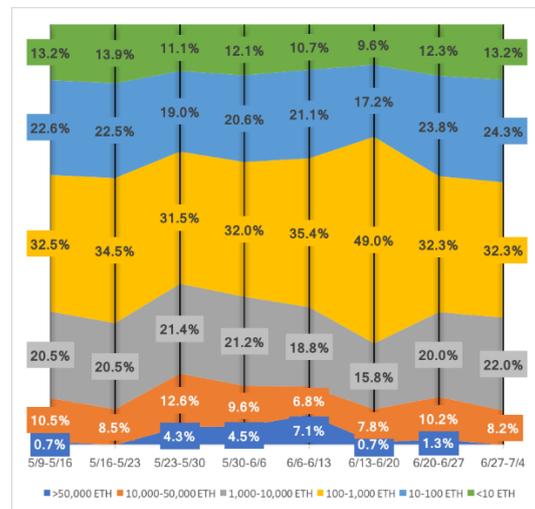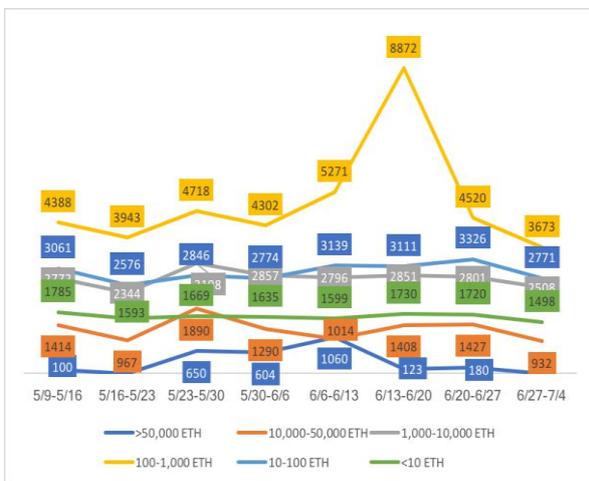Figure 15: Large and Extra-large Transactions on ETH Network

Data Source: Blockchain Node File, Huobi Research

1.14 Transaction Volume Distribution of Ethereum

There was no extra-large transaction (over 50K ETH) on Ethereum network this week. The amount of rest transaction interval, including 10K-50K ETH, 1K-10K ETH, 100-1K ETH, 10-100 ETH, and <10ETH, have declined compared with last week. **The most obvious decline was the 100-1K ETH interval, which was 3.67 million ETH this week, a decrease of 18.8% compared with the previous week's 4.52 million.** The proportion of the transfer of <10 ETH and the transfer of 1-10K ETH has increased this week.

Figure 16.1: Transaction breakdown by volume   Figure 16.2: Weekly ETH transaction distribution

2. Social Media Data

2.1 Keyword Analysis (China)

Huobi Research analyzed text using NLP Word Cloud to extract relevant keywords and understand the overall sentiments from China's largest Cryptocurrency online community 8btc.com. Specifically, we break down the keywords to three categories: Cryptocurrencies, Events, and Exchanges/Opinion Leaders.

In the Cryptocurrencies category, **NLP Word Cloud suggests Bitcoin, EOS, and Ethereum as the three cryptocurrencies that received the most widespread attention** (similar to previous weeks). Discussions on Bitcoin were mainly focused on price and trading strategies, with discussions on EOS mainly focused on the recent EOS RAM price surge.

In the Events category, **NLP Word Cloud suggests "Risk", "Online" and "RAM" as the three hottest words of the week.** Similar to last week, "Risk" refers to 1. The risk of new crypto exchanges (such as FT and OCX) absconding with individual investors' money; and 2. The risk of unsuccessful deployment of Crypto projects after ICO. Posts regarding "Online" mainly focused on the change in cryptocurrency's price (such as TRON and EOS) after the MainNet launch, as well as discussions regarding new token listing on Fcoin (token listing are referred to as "online" in China). Posts regarding "RAM" mainly focused on the recent price fluctuation of EOS RAM.

In the Exchanges/Opinion Leaders category, **NLP Word Cloud suggests "Huobi", "OKEX", and "Li Xiaolai" as the three hottest words of the week.** Specifically, posts regarding "**Huobi**" mainly focused on Huobi's Superhero Championship Program, HADAX, and Huobi Pro resuming the deposit and withdrawal of EOS. Posts regarding **"OKEX"** mainly focused on its alleged price manipulation in trading Futures and Options. **Posts regarding "Li Xiaolai" mainly focused on the released recording of Li "revealing the crypto industry."**

Figure 17: 8btc.com Word Cloud

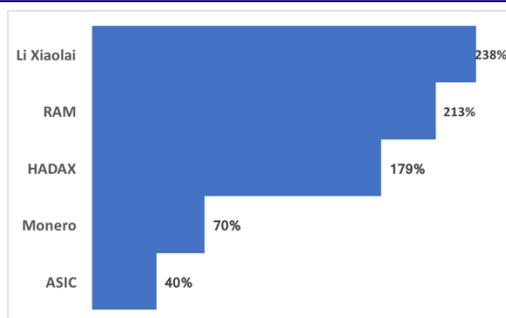Cryptocurrencies   Events   Exchanges and Opinion Leaders
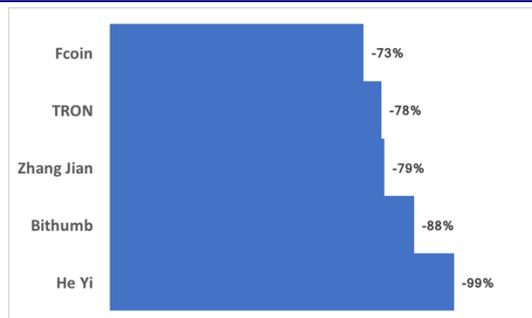

Data Source: Huobi Research

We witness a drastic change in the trending topics this week, with focus on "Li Xiaolai", "RAM", "HADAX", "XMR", "ASIC" receiving the largest increase, while focus on "He Yi (of Binance)", "Bithumb", "Zhang Jian (of Fcoin)", "TRON" and "Fcoin" receiving the largest decrease.

Figure 18.1: Least Trending Topics on 8btc.com   Figure 18.2: Most Trending Topics on 8btc.com

Data Source: Huobi Research   Data Source: Huobi Research

2.2 Keyword Analysis (Overseas)

We also performed NLP Word Analysis on Reddit's r/CryptoCurrency Subreddit to understand the trending topics and overall sentiments overseas, and we similarly broke down the keywords into three categories: Cryptocurrencies, Events, and Exchanges/Opinion Leaders.

In the Cryptocurrencies category, NLP Word Cloud suggests that, same as in 8btc.com, "**Bitcoin**", "**EOS**", and "**Ethereum**" are the three cryptocurrencies that received the most widespread attention. **Discussions on Bitcoin and Ethereum were focusing on the same issues as in China, while discussions**

on EOS focused on the recent skyrocketing EOS RAM price as well as its potential impact on the EOS ecosystem development.

In the Events category, NLP Word Cloud suggests **"Bots", "Community" and "RAM"** as the three hottest words of the week. Specifically, "**Bots**" refers to whether using "Crypto Trading Bots" is profitable; Discussion on **"Community"** focused on the current EOS community as well as NEO launching its Black Sea community to facilitate smart contract development; **"RAM"** refers to the discussion on the current EOS RAM price and its effect on the EOS ecosystem as a whole.

In the Exchanges/Opinion Leaders category, NLP Word Cloud suggests **"Coinbase", "Binance", and "Kraken"** as the three hottest words of the week. Specifically, discussion around **"Binance"** mainly focused its irregular SYS incident; posts regarding **"Kraken"** mainly focused on its accusation of Bloomberg manipulating the BTC futures market.
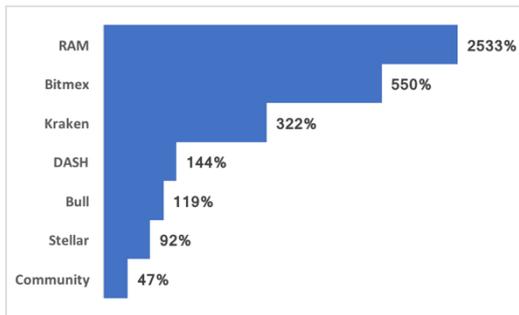
Figure 19: Reddit Word Cloud

Cryptocurrencies   Events   Exchanges and Opinion Leaders
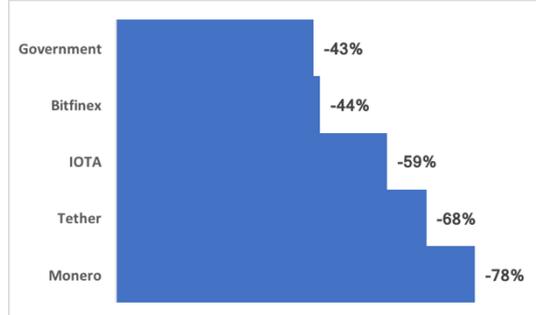
Data Source: Huobi Research

This week on r/CryptoCurrency, the focus on "RAM", "Bitmex", "Bitfinex", "Kraken", "DASH", "Bull", and "NEO" has received the largest increase, while focus on "Monero", "Tether", "IOTA", "Bitfinex" and "Government" receiving the largest decrease in a week.

Figure 20.1: Least Trending Topics on r/CryptoCurrency   Figure 20.2: Most Trending Topics on r/CryptoCurrency
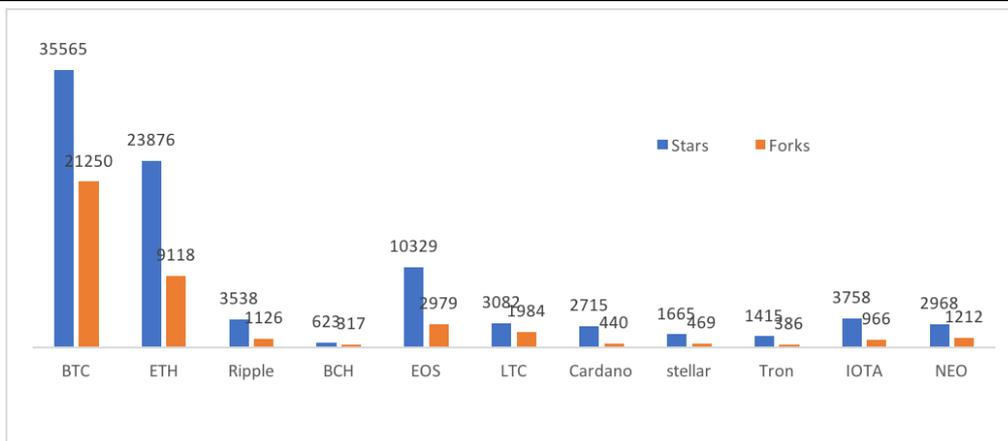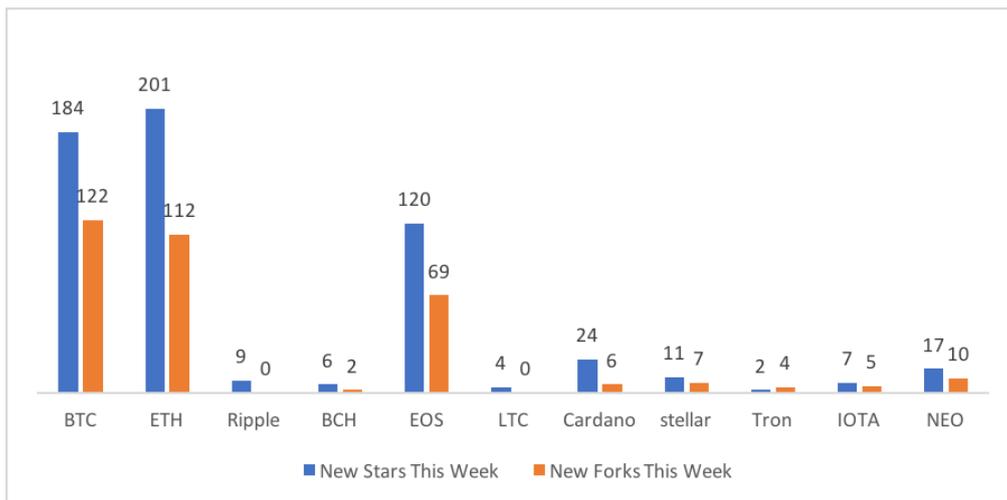
Data Source: Huobi Research   Data Source: Huobi Research

2.3 GitHub Code Activity

Among all GitHub communities, BTC, ETH, and EOS are the most active projects of all time. BTC, ETH, and EOS are also the projects with the most Stars and Forks in the past week. **However, ETH received more Stars on GitHub than BTC last week, the first time it has happened in the past two months.**

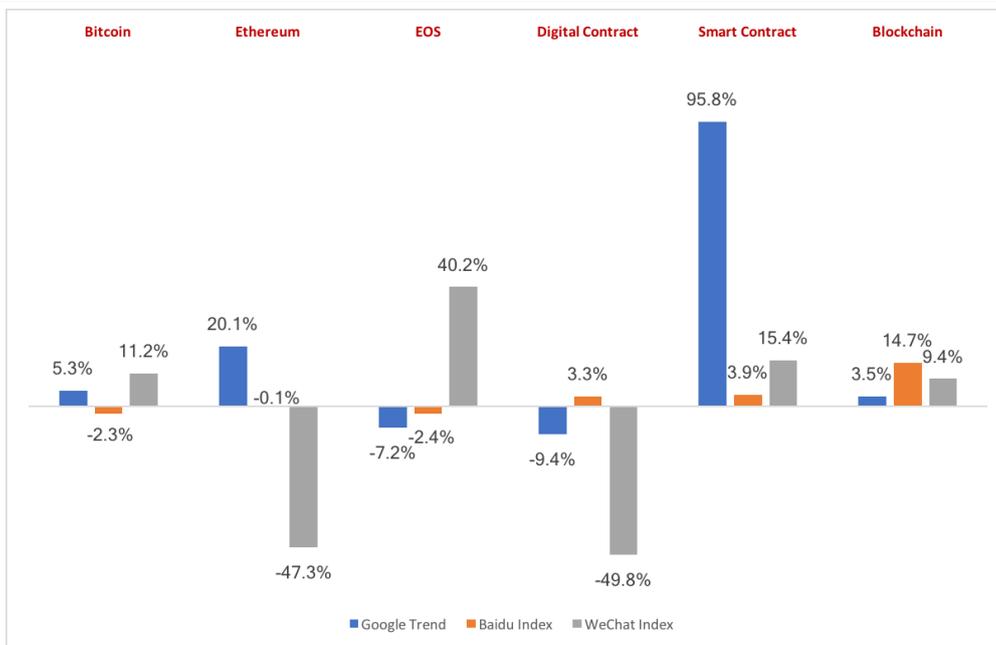Figure 21: Top Starred/Forked Projects on GitHub

Data Source: Huobi Research

2.4 Search Trends

This week, Search trends for "smart contract" and "Blockchain" experienced a general increase compared to last week. However, search trends of "Bitcoin", "Ethereum", "EOS" and other cryptocurrencies varied with regard to different search engines.
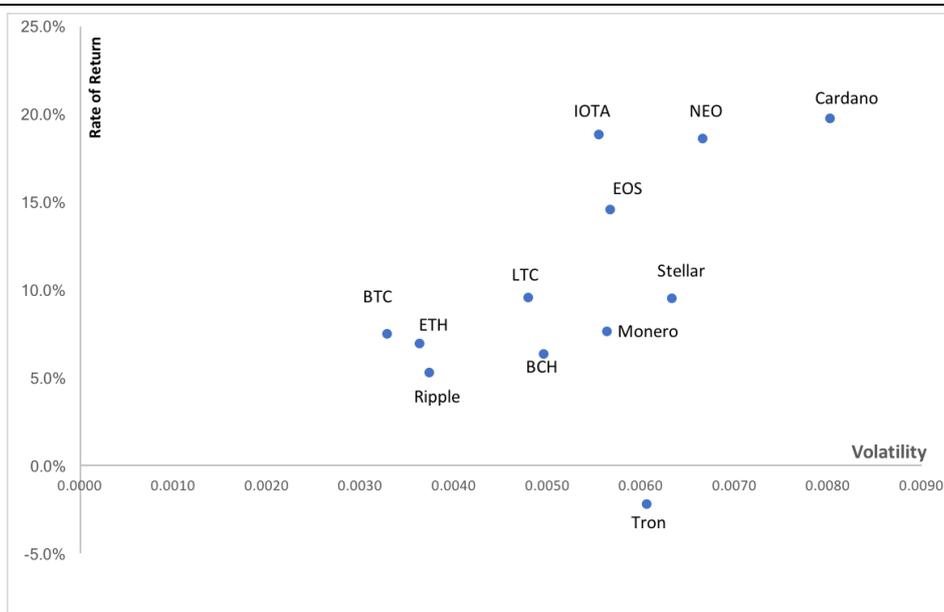
Figure 22: Weekly Changes in Search Trends

Data Source: Huobi Research, Google Trend, Baidu Index, Wechat Index

3. Market Data

3.1 Rate of Return/Price Volatility

The cryptocurrency market performance has experienced a clear bounce this week after a downtrend lasting for two weeks, with all top 10 cryptoassets except for TRON experiencing a drastic gain in price. Among all top 10 cryptocurrencies, Cardano experienced the largest increase of 19.8% and TRON experienced the largest decrease of 2.2% in their respective prices. In terms of price volatility, BTC has the smallest volatility rate of 0.0033 s.d. (standard deviation of price fluctuation in every 15 minutes), and Cardano has the largest volatility rate of 0.0080 s.d.
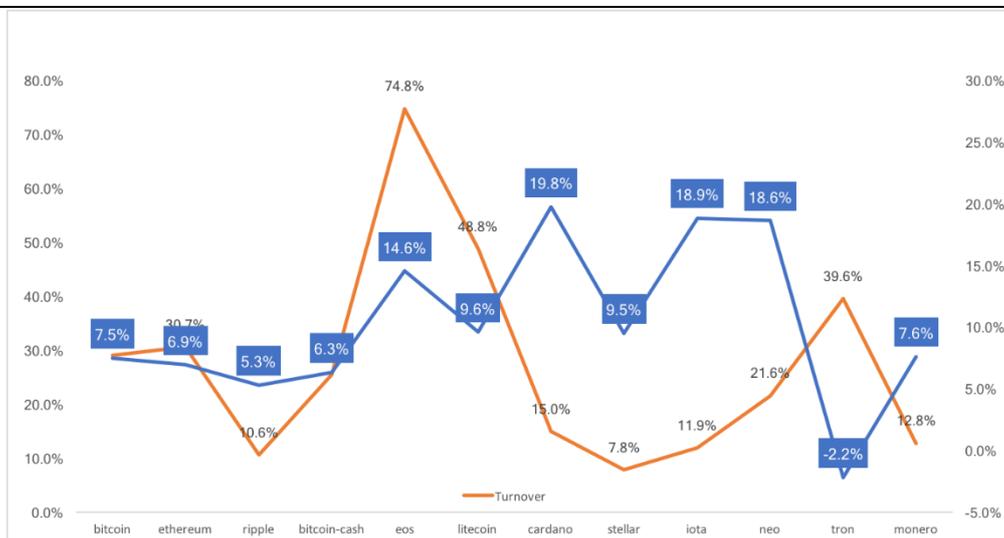
Figure 23: Rate of Return vs Price Volatility

Data Source: Huobi Research, Coinmarketcap

3.2 Turnover

EOS, Litecoin and TRON are the three cryptocurrencies with the largest turnover this week, each with **74.8% (99.6% last week), 48.8% (59.2% last week), and 39.6% (72.7% last week)** respectively. **Stellar, Ripple and IOTA** have the smallest turnovers this week, each with **7.8% (compared to 8.1% last week), 10.6% (compared to 10.4% last week) and 11.9% (compared to 17.1% last week),** respectively. **In general, overall turnover of top 10**

cryptocurrencies have experienced a apparent decrease, with TRON's turnover down 33% from the previous week.

Figure 24: Rate of Return vs Turnover

Data Source: Huobi Research, Coinmarketcap

3.3 Cryptocurrency Price Correlations

Correlation amongst assets is the degree to which they move in tandem. The matrices above show Pearson correlations and p-values that are computed from log-returns of volume-weighted average daily prices over the past week.

This week, there are high correlations between the price of top 10 Cryptocurrencies, with Pearson correlations efficiency between cryptocurrency prices generally exceeding 0.8 (the only exception is TRON). TRON/IOTA and TRON/Cardano have the lowest correlations efficiency of 0.6, while BTC/ETH and BCH/ETH have the highest correlations efficiency of 0.98.

Figure 25: Pearson Correlations Matrix between Cryptocurrencies

	bitcoin	ethereum	ripple	BCH	eos	litecoin	cardano	stellar	iota	neo	tron	monero
bitcoin	1.00	0.98	0.80	0.98	0.92	0.93	0.94	0.95	0.92	0.87	0.62	0.88
ethereum	0.98	1.00	0.86	0.98	0.94	0.95	0.96	0.97	0.94	0.91	0.70	0.90
ripple	0.80	0.86	1.00	0.87	0.90	0.94	0.83	0.88	0.83	0.89	0.88	0.86
BCH	0.98	0.98	0.87	1.00	0.93	0.96	0.93	0.96	0.91	0.89	0.71	0.89
eos	0.92	0.94	0.90	0.93	1.00	0.96	0.95	0.97	0.96	0.95	0.70	0.92
litecoin	0.93	0.95	0.94	0.96	0.96	1.00	0.90	0.95	0.91	0.92	0.78	0.93
cardano	0.94	0.96	0.83	0.93	0.95	0.90	1.00	0.97	0.98	0.95	0.60	0.87
stellar	0.95	0.97	0.88	0.96	0.97	0.95	0.97	1.00	0.97	0.95	0.71	0.91
iota	0.92	0.94	0.83	0.91	0.96	0.91	0.98	0.97	1.00	0.97	0.60	0.89
neo	0.87	0.91	0.89	0.89	0.95	0.92	0.95	0.95	0.97	1.00	0.69	0.88
tron	0.62	0.70	0.88	0.71	0.70	0.78	0.60	0.71	0.60	0.69	1.00	0.75
monero	0.88	0.90	0.86	0.89	0.92	0.93	0.87	0.91	0.89	0.88	0.75	1.00

Data Source: Huobi Research

Huobi Research

About Us：

Huobi Research was founded in April 2016 and started research and explorations in various aspects in Blockchain area since March 2018. We cover various fields such as Blockchain technology research, industry analysis, application innovation and economic model explorations. We aim to establish a research platform and to offer theoretical foundations as well as judgements of trends in Blockchain to the public, ultimately promoting the development of the Blockchain industry.

Huobi Data Analytics Weekly aims to provide participators of the cryptocurrency market with the most up-to-date and comprehensive database to help them facilitate decision-making process.

Contact Us：

E-mail：	huobiresearch@huobi.com
WeChat：	火币区块链
Twitter:	Huobi_Research
	https://twitter.com/Huobi_Research
Medium:	Huobi Research
	https://medium.com/@huobiresearch
Facebook:	Huobi Research
	https://www.facebook.com/Huobi-Research-655657764773922
Website:	http://research.huobi.com/

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