Comparison of Perpetual Future Funding Rates

1 Introduction

Since their rise to prominence in 2016, perpetual futures have expanded to a wide set of exchanges and underlying cryptocurrencies. While these contracts share the basic characteristic of use of periodic interest rates to enforce a link to the underlying, they vary considerably in how and when payments are calculated and paid. These implementation details and additional differences in market structure result in tangible differences in behavior between similar-seeming futures products and their associated funding rates. Here, we compare perpetual future funding rates across several centralized and decentralized exchanges and collaterals. We investigate the historical properties of these funding rates and their distributions.

2 Background

2.1 Perpetual Futures

Broadly, a perpetual futures contract f_i on an underlying instrument i consists of a contract with an associated funding rate r. In contrast to traditional futures, perpetual contracts have no expiry date; like futures on some other financial assets, they rely on cash settlement instead of delivery of the underlying. The rate r is based on some measure the difference in price between the future price $p(f_i) - p(i)$, normalized by a time factor to reflect the frequency of payments. The aim of r is to enforce a direct link between the futures contract and the underlying spot instrument. When the funding rate is positive, $r > 0$, long positions pay shorts; when $r < 0$, short positions pay those long the contract. Thus, the funding rate penalizes deviations between the spot and futures prices.

2.2 Exchanges

Calculation methods of funding rates and settlement frequencies vary across exchanges. Here, we describe and compare the funding rate calculations used by several major exchanges, both centralized (FTX, Binance, BitMEX) and decentralized (Mango Markets, dYdX). All information below is based on the publicly available information at the time of writing; this is subject to change and we encourage readers to consult the latest documentation directly.

3 Funding Rate Calculations

Though they share similar use cases and goals, perpetual futures products vary significantly across exchanges and underliers. In the table below we display differences across several key characteristics:

Exchange	Centralization	Frequency	Weighted Avg	Interest	Clamping	Impact Pricing
Binance	centralized	8-hourly	X	X	X	X
BitMEX	centralized	8-hourly	X	X	X	X
dYdX	decentralized	hourly	X	X	X	X
FTX	centralized	hourly	X			
Mango	decentralized	continuous[1]				X

1. Payment Frequency: how often payments occur:
   continuous (Mango) vs hourly (dYdX, FTX) vs 8-hourly (Binance, BitMEX)
2. Snapshotting: how future and spot price inputs are processed:
   weighted average (Binance, BitMEX, dYdX, FTX) vs instantaneous (Mango)
3. Interest Component: introduction of bias to reflect borrow rates between quote and payment currencies:
   premium + interest (Binance, BitMEX, dYdX) premium only (Mango, FTX)
4. Clamping: hard caps on the range of values of the funding rate:
   clamping (Binance, BitMEX, dYdX) vs no clamping (FTX, Mango)
5. Pricing method: execution size used for calculation of spot and future price inputs:
   impact pricing: (Binance, BitMEX, dYdX, Mango) vs best pricing (FTX)

We emphasize that these characteristics and calculations on their own are not enough to determine funding rate behavior; differences in market structure, trading volume, and types of participants also greatly effect funding rates.

3.1 FTX

Funding on FTX perpetual futures contracts is paid hourly according to the following equation[2]:

$$r = \text{TWAP}_{1\text{hr}}([p_{\text{future}} - p_{\text{index}}]/p_{\text{index}})/24$$

The future price is calculated as $p_{\text{future}} = \text{median}(\text{last price}, \text{best bid}, \text{best offer})$. The index price p_{index} is calculated[3] as a weighted average of prices from major markets on the underlying, capped at a 30bp divergence from the median. Snapshots of the premium for the calculation of the hourly average are taken every second.

In contrast to several of the following exchanges, FTX's funding rate consists solely of a premium component. The rate calculation also contains several features which have the effect of reducing volatility at various levels of the calculation. First, in the calculation of the premium, the definition of the futures price as the median of several price indicators minimizes sensitivity to short-term order book distortions and volatility in futures markets. Second, the use of a capped index of spot markets both minimizes fluctuations due to variations across exchanges. Hourly weighting of premiums results in further smoothing of the funding rate by minimizing the effects of temporary price fluctuations between the future and the underlying.

3.2 BitMEX

The BitMEX funding rate[4] consists of two components: a premium component and an interest component. Like the FTX funding rate, the premium component P tracks the difference between the future and underlying prices:

$$P = \frac{\max(0, \text{Impact Bid Price} - \text{Mark Price}) - \max(0, \text{Mark Price} - \text{Impact Ask Price})}{\text{Spot Price}} + \text{Fair Basis}$$

[1]Funding is paid when the keeper instruction is called, which in practice is every few seconds

[2]`https://help.ftx.com/hc/en-us/articles/360027946571-Funding`

[3]Further information can be found here: `https://help.ftx.com/hc/en-us/articles/360027668812-Index-Calculation`

[4]`https://www.bitmex.com/app/perpetualContractsGuide#Funding-Rate-Calculations`

The impact bid and ask prices above are defined as the average execution price for 10000 USD notional on their respective sides. The fair basis is a decaying term corresponding to the last funding rate value. For a detailed explanation of the inputs to the BitMEX funding calculation, please see the documentation here: `https://www.bitmex.com/app/fairPriceMarking#impact-bid-ask-and-mid-price`.

The interest component I measures the difference between the borrow rates for the quote and base currencies:

$$I = (\text{Interest Quote Index} - \text{Interest Base Index})/\text{Funding Interval}$$

In practice, these numbers are fixed, resulting in a fixed positive interest rate component.

Another notable feature of BitMEX's funding calculation is the presence of clamping. Let I^* and P^* denote the 8-hour TWAP prices calculated from minutely snapshots of I and P. Then the funding rate r is calculated as follows:

$$r = I^* + \text{clamp}(I^* - P^*, 0.05\%, -0.05\%)$$

In addition to clamping, the funding rate r is also subject to two bounds on its values:

The absolute funding rate is capped at 75% of the Initial Margin - Maintenance Margin. The funding rate may not change by more than 75% of the Maintenance Margin between funding intervals.

Unlike other perpetual futures considered here, BitMEX futures settle in BTC. The difference in settlement currency introduces a positive bias to the funding rate due to the positive correlation between ETH and SOL and BTC. As an example, consider the behavior of a BitMEX ETHUSD perpetual futures contract. A positive/negative movement in the price of ETH relative to USD is associated with a corresponding movement in the price of BTC relative to USD. As a result, short holders benefit less from positive price movements and suffer more from negative price movements.

Together with clamping, the difference in settlement currency reduces the variability of the funding rate, since if I^* and P^* are within 5 percent of each other, the funding rate will be equal to I^*. This can be seen in distributional funding rate data below, which show overwhelmingly positive constant rates for ETH and SOL perpetual futures due to this capping. Thus, BitMEX's clamping has the result of significantly reducing the variability of funding rates by only reflecting large divergences between future and spot.

These absolute caps on the funding rate itself insulate the funding rate from wild behavior in times of extreme market turbulence; however, they also have the potential to weaken the natural link between the future and the underlying spot market.

Like FTX, BitMEX employs a price index in its mark price calculation in order to minimize dependence on a single exchange's price. However, the use of an interest rate component, differing quote currency, and clamping result in a funding rate which is often positive and constant.

3.3 Binance

Funding payments on Binance occur every 8 hours (00:00 , 08:00, and 16:00 UTC) and consist of an interest rate component (I^*) and a premium component (P^*) which are combined as in the BitMEX case:

$$r = I^* + \text{clamp}(I^* - P^*, 0.05\%, -0.05\%)$$

Unlike BitMEX, the constant interest rate component is held constant for all collateral types, and is set to 0.01 per funding period. Hence, the Binance rate calculation becomes:

$$r = 0.01 + \text{clamp}(0.01 - P^*, 0.05\%, -0.05\%)$$

.

The premium component P^* is simply an average of snapshots of the premium index P taken secondly over the course of the 8-hour funding period. Unlike BitMEX, Binance does not employ a "fair basis" term relying on the funding rate from the last calculation period.

$$\text{Premium Index}(P) = \frac{\max(0, \text{Impact Bid Price} - \text{Price Index}) - \max(0, \text{Price Index} - \text{Impact Ask Price})}{\text{Price Index}}$$

Impact Bid Price = The average fill price to execute the Impact Margin Notional on the Bid Price

Impact Ask Price = The average fill price to execute the Impact Margin Notional on the Ask Price

3.4 Mango Markets

Mango Markets pays funding on perpetual futures contracts when the keeper instruction is called. In practice, this is every few seconds. Upon calling the keeper instruction, a snapshot of the order book is taken and the following calculation is performed to calculate the funding rate r:

$$\begin{aligned}
&\text{book price} = (\text{bid} + \text{ask})/2 \\
&\text{diff} = \text{clamp}(\text{book price}/\text{index price} - 1, -0.05, 0.05) \\
&\tau = (\text{time since last payment})/\text{time in day} \\
&r = \text{diff} * \tau * \text{contract size} * \text{index price}
\end{aligned}$$

In the above calculation, the input variables *bid* and *ask* correspond to the weighted average price up to 100 lots in size on the corresponding sides of the order book, based on the snapshot taken when the keeper instruction is called. The index price corresponds to the on-chain oracle price.

Mango's funding rate has several unique features which distinguish its futures from other products mentioned. First, it is updated and paid frequently on the order of seconds, in contrast to the hourly and 8-hourly payments of other exchanges. This continuous payment constantly enforces the link between the perpetual future and the underlying, ensuring divergences are quickly taken into account. However, it also increases funding rate volatility since the contract is exposed to underlying price movements.

Further increasing funding volatility on Mango's products is the use of snapshots as opposed to time-weighted averages of market data on inputs in the funding calculation. As a result, sharp spot movements can cause large movements in funding rates. Finally, due to the on-chain nature of the calculation, network congestion can yield additional rate volatility if the oracle price updates slowly in relation to the order book.

In summary, Mango Markets' perpetual futures have a close, direct link to the underlying when compared to other products. However, frequent, uncapped payments based on instantaneous snapshots have the potential to result in large-magnitude funding payments when there are sudden (albeit potentially temporary) changes in market or network conditions. These remain important factors given that Mango is a decentralized exchange and funding calculations are performed on-chain.

3.5 dYdX

Like Mango and Binance, dYdX uses an impact pricing model to calculate funding rates; like Binance and BitMEX, it uses an interest component I in addition to a premium component P. Funding is paid hourly according to $r = (P^*/8) + I$. The hourly premium component P^* is the average of minutely premiums P, calculated as:

$$\text{P} = \frac{\max(0, p_{\text{impact bid}} - p_{\text{index}}) - \max(0, p_{\text{index}} - p_{\text{impact ask}})}{p_{\text{index}}}$$

where $p_{\text{impact bid}}$ and $p_{\text{impact ask}}$ are the average execution prices for market sells of $n_{\text{impact notional}}$ = 500USDC/Initial Margin Fraction. The interest component I is currently set to a fixed 0.00125% for all markets.

Funding rates for dYdX are paid hourly. Like Mango, it is a decentralized exchange and funding calculations are performed on-chain, so the rates remain vulnerable to changes in network conditions when compared to centralized exchanges.

4 Funding Rate Comparison

We now view and analyze historical data corresponding from the aforementioned exchanges for BTC, ETH, and SOL. Data was retrieved directly from exchanges via APIs and processed using the pandas package in Python.

4.1 Raw Data

Here, we display raw funding rate data as acquired from the APIs. We have binned hourly data from FTX, dYdX, and Mango to 8-hour buckets for ease of comparison against Binance and BitMEX.

Overall, in Figure 1, there appears to be a decrease in average funding rate magnitude over time, in line with increased development and trading volume of the perpetual futures markets. Beginning in April 2022, volatility appears to increase; this period corresponds to greater volatility in the underlying spot markets.

Comparing collaterals, we see several general trends. First, funding rates for ETH and SOL appear both larger in magnitude and more volatile than those for BTC. This could reflect increased market depth on these markets. Additionally, funding rates on BTC appear lower in magnitude on average.

From visual inspection, BitMEX rates for SOL and ETH appear more positive and volatile than those of other exchanges. The effect of the clamping mechanism is also clearly visible; funding rates rarely turn negative. While BitMEX BTC funding rates appear visually in line with those of other exchanges, rates for ETH and SOL show significantly different distributional behavior. Notably, they are always positive and contain fewer outliers.

dYdX rates experience a period of high volatility in early December 2021, but otherwise appear in line with other rates. Mango Markets rates appear to often drop below other rates, experiencing an especially sharp drop in mid-May 2022 during a time of Solana network congestion. While other exchanges appear to experience drops around this time, they do not appear as large in magnitude.

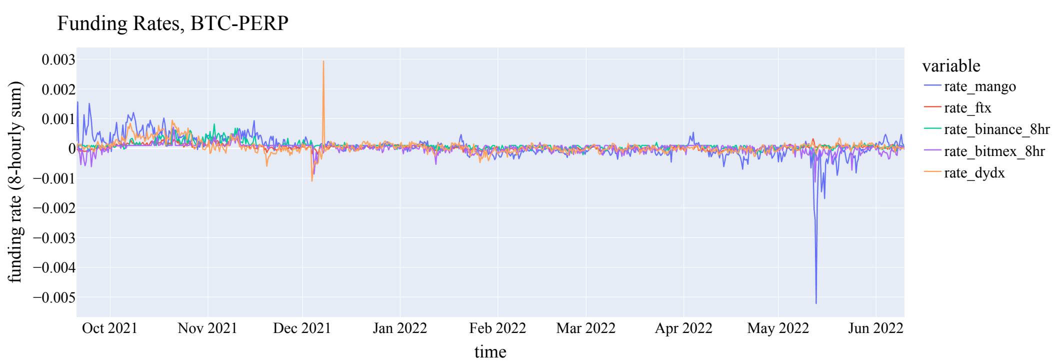

Figure 1: BTC perpetual future funding rates, 8-hour sum

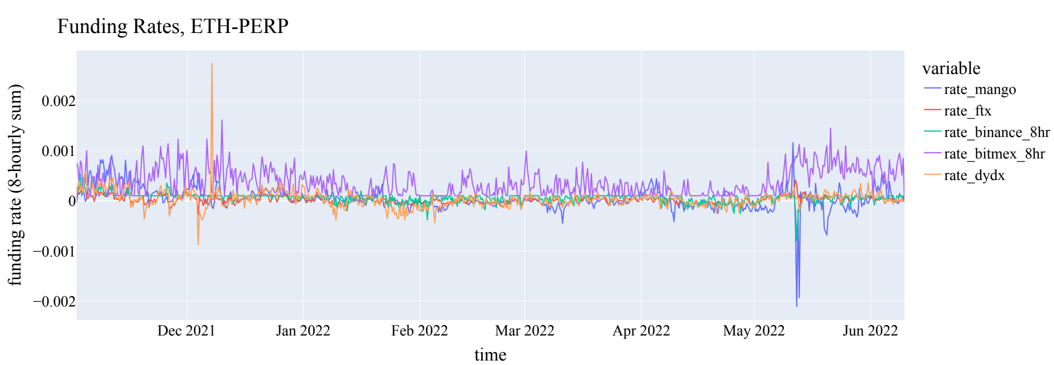

Figure 2: ETH perpetual future funding rates, 8-hour sum

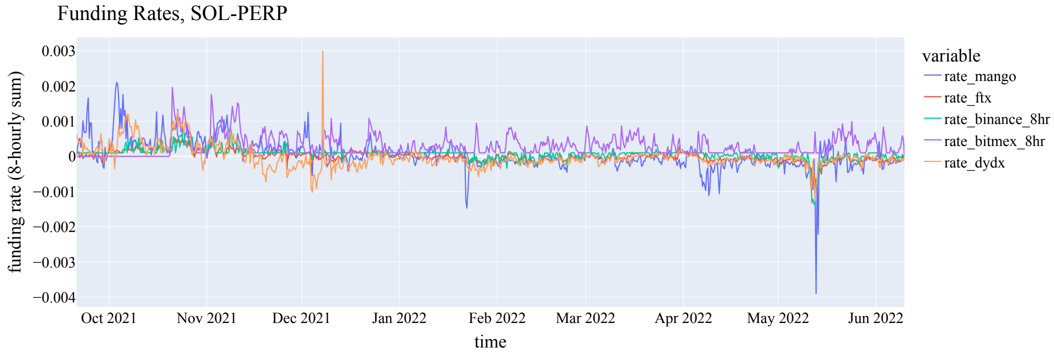

Figure 3: SOL perpetual future funding rates, 8-hour sum

4.2 Distributional Characteristics

Here, we visualize the distributions of funding rates for the various exchanges and collaterals.

Figure 4 contains boxplots corresponding to the distribution of BTC-PERP funding rates. Rates from Binance and FTX are are the closest to zero and have a relatively compact set of outliers compared to other exchanges. BitMEX and dYdX have wider interquartile ranges, with dYdX having a significant right tail of outliers due to the spike in rates in early December 2021. Finally, Mango Markets has the widest distribution of the 5 exchanges. Notably, it contains a large number of outliers which are widely dispersed and have an especially long negative tail.

In general, distributions of funding rates are non-symmetrical and fat-tailed relative to the normal distribution. In our analysis these characteristics are present across exchanges and collaterals.

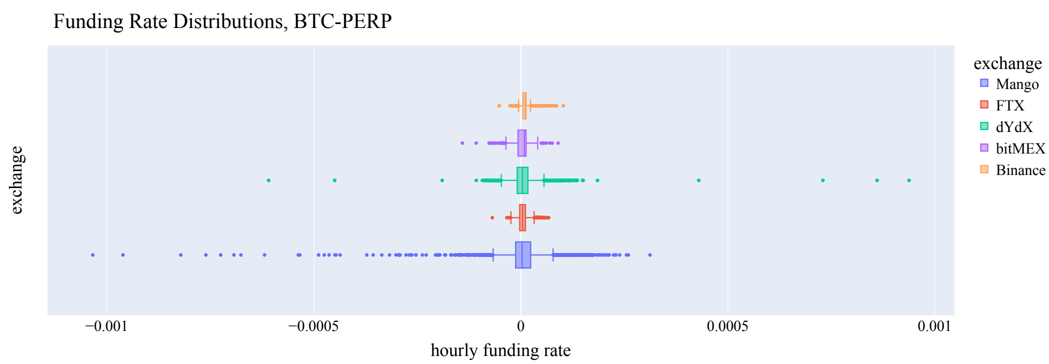

Figure 4: Boxplot of BTC-PERP hourly funding rates

Figure 5 contains many of the same properties as in the case of BTC. As seen in Figure 2, rates for BitMEX are strictly positive and significantly more volatile than on other exchanges.

Funding rates for SOL-PERP appear to be the most volatile of the three futures contracts, and outliers appear to be more widely distributed relative to the interquartile range when compared to the other underliers. As with ETH, BitMEX rates are uniformly positive.

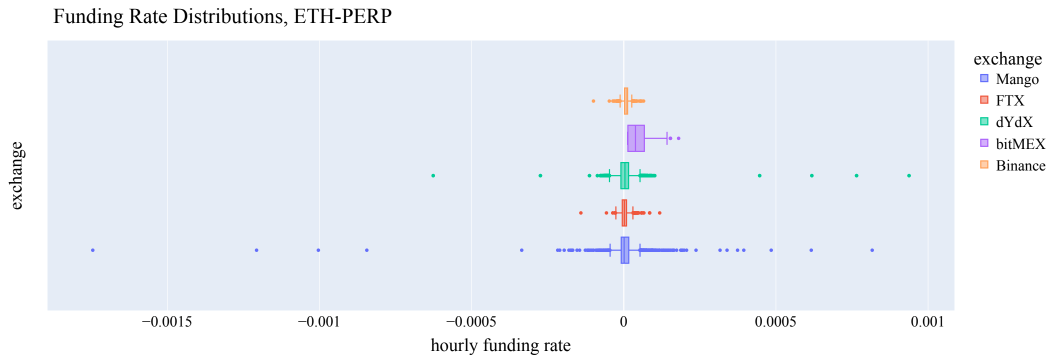

Figure 5: Boxplot of ETH-PERP hourly funding rates

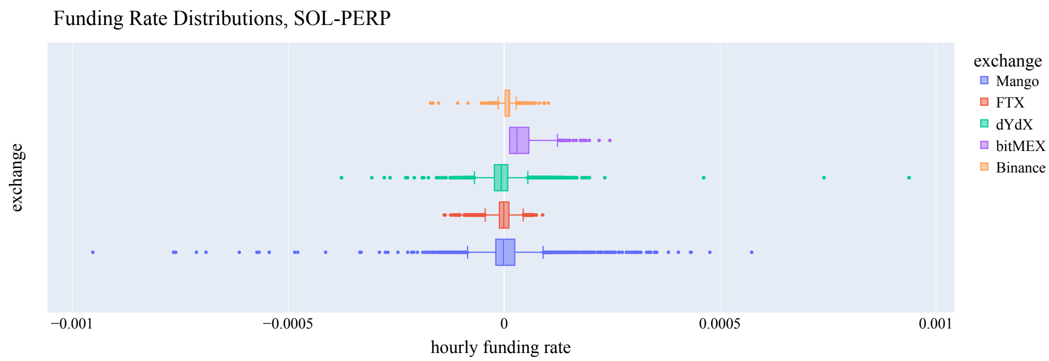

Figure 6: Boxplot of SOL-PERP hourly funding rates

4.3 Correlations

So far, we have previously compared distributions of funding rates across exchanges and collaterals. Here we look at the correlations between the series of weekly total funding payments. We have chosen weekly frequency to minimize noise related to low data resulting from the different payment frequencies at lower resolutions.

By underlying, excluding the anomalous behavior of BitMEX funding rates for ETH and SOL, correlations between funding payments are strongest for SOL, while correlations between exchanges are lowest for BTC.

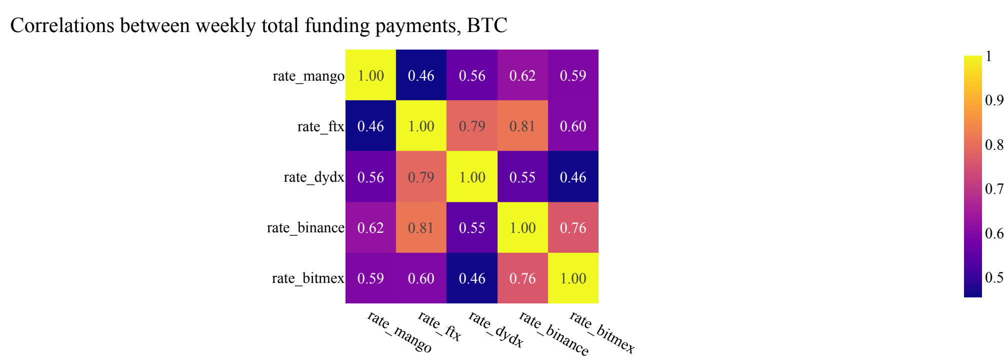

Figure 7: Correlations between weekly total funding payments, BTC

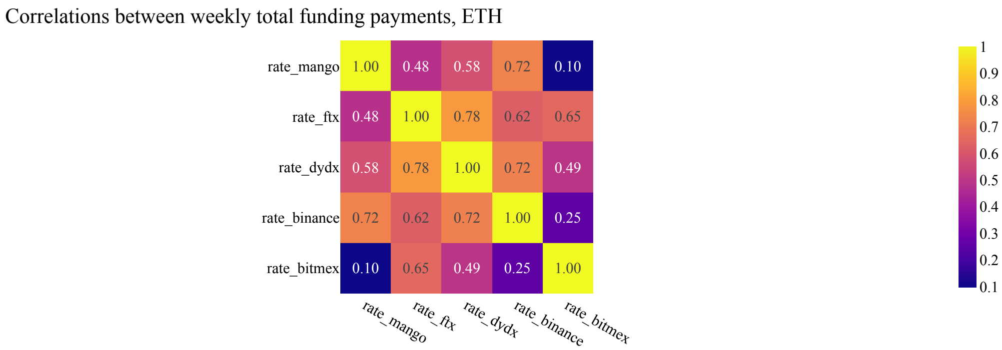

Figure 8: Correlations between weekly total funding payments, ETH

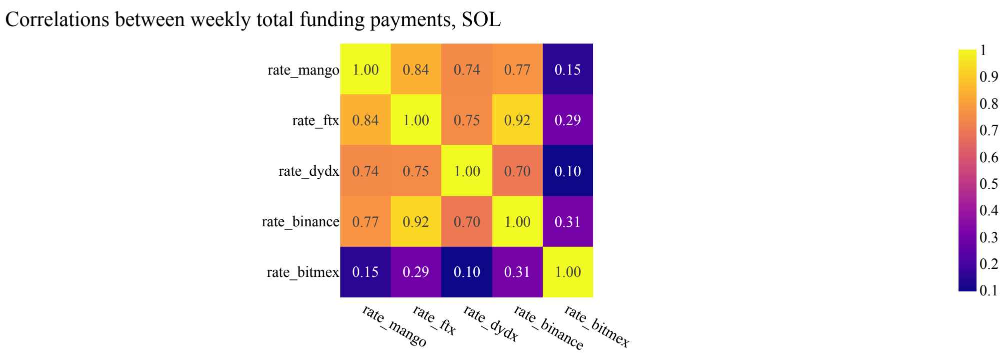

Figure 9: Correlations between weekly total funding payments, SOL

4.4 Funding Rates Over Time

Here we discuss changes in the distribution of funding rates across time. Given the recent launches of many of the products considered and their nascent markets, funding rate distributions appear non-stationary. The range considered also contains several periods of considerable spot market volatility.

We first note that several trends continue to hold across time as in previous discussion. BitMEX SOL and ETH funding rates appear consistently higher than others, while BitMEX BTC funding rates appear roughly in line with other exchanges.

Notably, funding rates on the centralized FTX and BitMEX exchanges appear relatively stable over time across all collateral types. Across decentralized exchanges Mango and dYdX, we see a trend of increasing stabilization in funding rates until the beginning of 2022. Beginning in March 2022, we begin to see increased volatility in funding rates which is especially prominent in the decentralized exchanges. Funding rates on Mango Markets appear to exchibit several periods of increased volatility relative to other exchanges.

We also note that decentralized exchanges appear to have among the lowest funding rates beginning around March 2022 when compared to the centralized exchanges. While this trend is expected in the case of the positively biased Binance and BitMEX exchanges, it also holds for FTX which lacks an interest component.

4.4.1 Mean Funding Rate

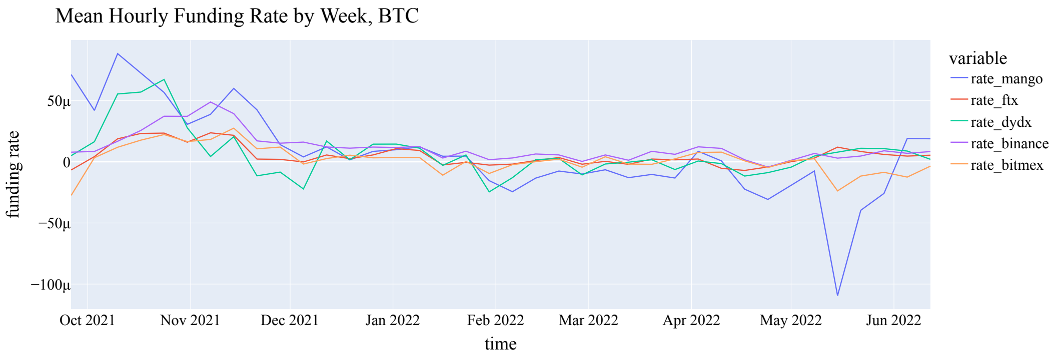

Figure 10: Mean Weekly Funding Rate, BTC

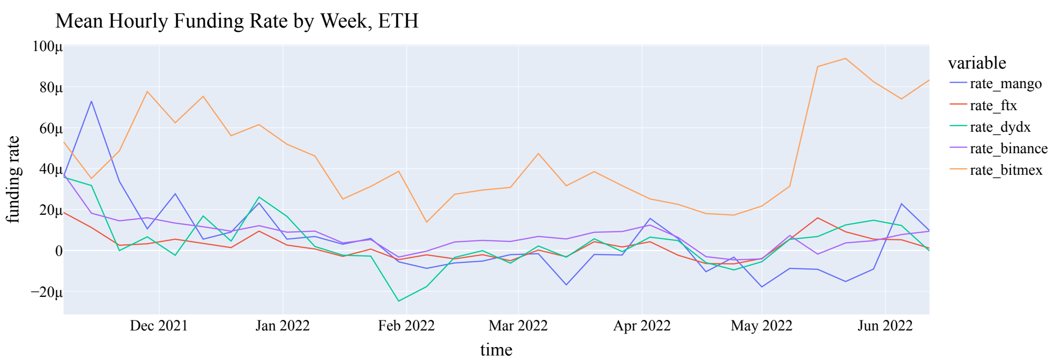

Figure 11: Mean Weekly Funding Rate, ETH

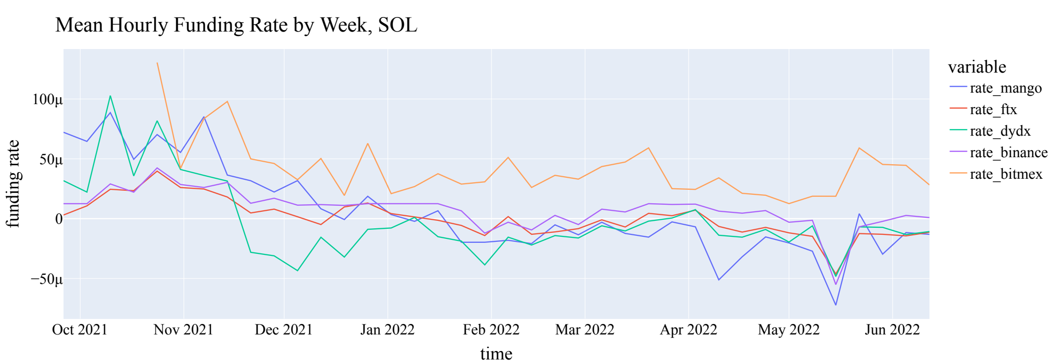

Figure 12: Mean Weekly Funding Rate, SOL

4.4.2 Funding Rate Variability

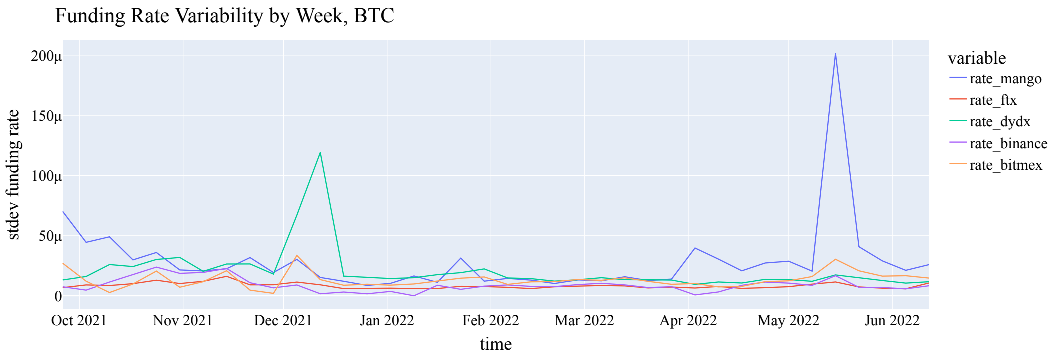

Figure 13: Weekly standard deviation funding rate, BTC

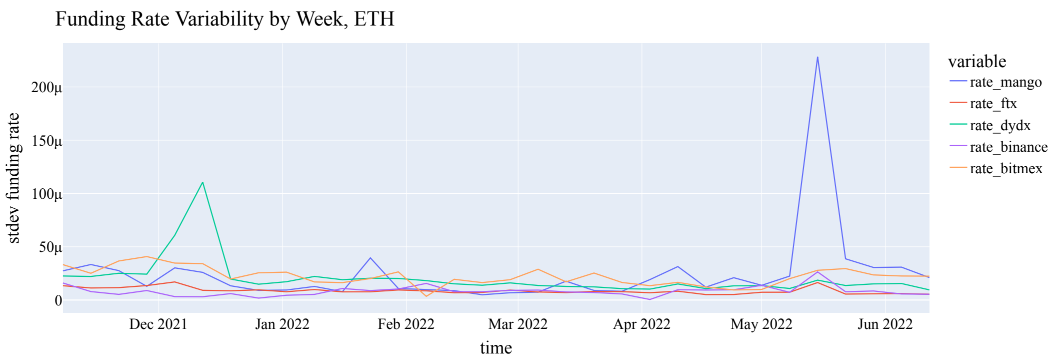

Figure 14: Weekly standard deviation funding rate, ETH

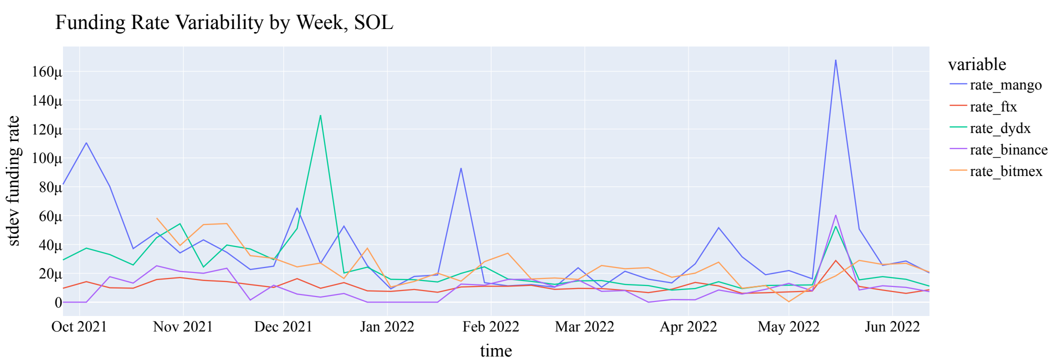

Figure 15: Weekly standard deviation funding rate, SOL

4.5 Autocorrelation

We now take a look at the structure of the funding rate series themselves.

Figures 16 and 17 display the autocorrelation functions of hourly BTC-PERP funding rates for FTX and Mango markets respectively. Dotted lines represent 99% confidence bands. We begin by noting that funding rates display strong autocorrelation in the short term, as well as weaker mean-reversion in the medium term. These trends are consistent with the continuous nature of funding rates and broadly hold across the full set of exchanges and collaterals tested.

Figure 18 contains the autocorrelation plot for rate returns on FTX BTC-PERP. Although there is a visual trend of decreasing autocorrelation in this case as well, it is of much lower magnitude.

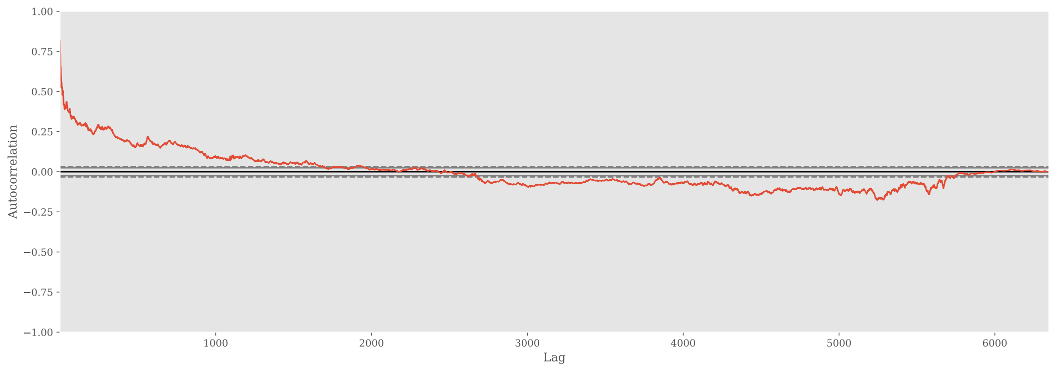

Figure 16: Autocorrelation plot for FTX BTC-PERP funding rates

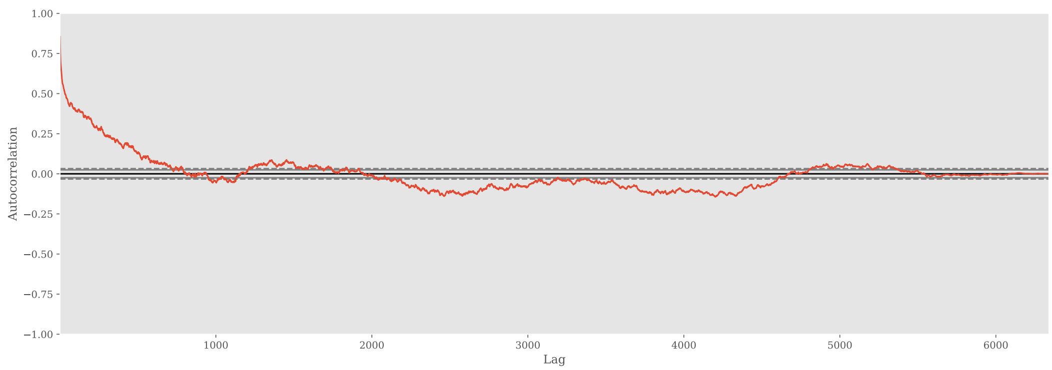

Figure 17: Autocorrelation plot for Mango BTC-PERP funding rates

from visual inspection does not appear to exhibit the same mean reversion processes as before. The behavior shown in this plot appears representative for FTX rates in particular across the three collaterals tested, and could possibly reflect the numerous stabilizing properties built in to the FTX funding rate calculation as mentioned in section 3.1.

In contrast, Figure 19 contains the corresponding plot for the Mango BTC-PERP. Compared to the case of FTX, the mean autocorrelation appears much closer to zero. However, the series' autocorrelation exhibits much sharper tails. While we do not view these as statistically significant due to the number of lags considered vs the statistical power of the test, this behavior does appear in line with the relatively volatile behavior of rates on decentralized exchanges.

Although not shown here for the sake of brevity, percent changes for rates for Binance and BitMEX appear to exhibit more similar behavior to Figure 18, while percent changes rates for rates on dYdX appear to exhibit behavior more similar to Figure 19.

Autocorrelation plots for other collaterals did not appear to exhibit significantly different behavior compared to the case of BTC, and the behavior beginning in the calendar year 2022 appeared broadly consistent with the above plots, which reflect the entire dataset.

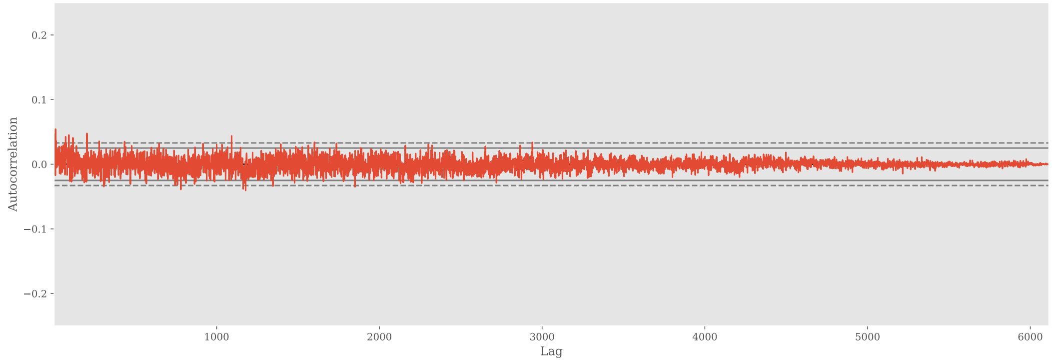

Figure 18: Autocorrelation plot for FTX BTC-PERP funding rate returns

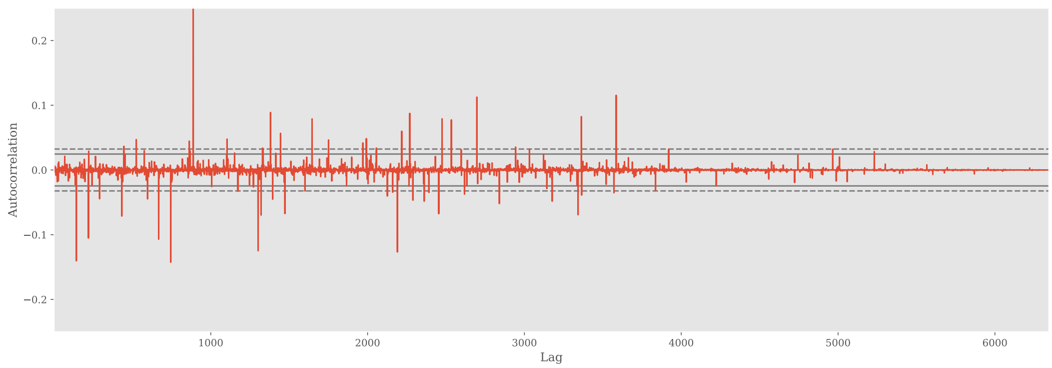

Figure 19: Autocorrelation plot for Mango BTC-PERP funding rate returns

4.6 Summary Statistics

This section contains summary statistics of the distribution in funding rates. For each underlier we display two separate tables: the first representing the full data set, the second representing the period beginning in Jan 2022, before which several of the products considered were relatively and had relatively low trading volume.

	rate_mango	rate_ftx	rate_dydx	rate_binance	rate_bitmex
mean	6.00E-6	5.00E-6	6.00E-6	1.20E-5	2.00E-6
std	5.50E-5	1.20E-5	3.40E-5	1.60E-5	1.80E-5
min	-1.03E-3	-6.90E-5	-6.09E-4	-5.30E-5	-1.41E-4
25%	-1.30E-5	-3.00E-6	-9.00E-6	5.00E-6	-7.00E-6
50%	3.00E-6	4.00E-6	3.00E-6	1.30E-5	8.00E-6
75%	2.40E-5	1.10E-5	1.70E-5	1.30E-5	1.30E-5
max	3.12E-4	6.70E-5	9.37E-4	1.02E-4	9.00E-5

Table 1: Summary Statistics for BTC-PERP since Oct 2021

	rate_mango	rate_ftx	rate_dydx	rate_binance	rate_bitmex
mean	-1.30E-5	1.00E-6	-6.44E-7	5.43E-6	-2.71E-6
std	5.40E-5	9.00E-6	1.68E-5	9.13E-6	1.57E-5
min	-1.03E-3	-2.90E-5	-8.41E-5	-5.25E-5	-1.41E-4
25%	-2.10E-5	-5.00E-6	-1.09E-5	-3.13E-8	-1.15E-5
50%	-7.00E-6	1.00E-6	4.03E-7	9.94E-6	-6.25E-8
75%	4.00E-6	7.00E-6	1.00E-5	1.25E-5	1.24E-5
max	2.29E-4	5.80E-5	7.27E-5	1.25E-5	1.25E-5

Table 2: Summary Statistics for BTC-PERP since Jan 2022

	rate_mango	rate_ftx	rate_dydx	rate_binance	rate_bitmex
mean	5.00E-6	2.00E-6	4.00E-6	7.00E-6	4.50E-5
std	4.90E-5	1.10E-5	3.00E-5	1.20E-5	3.20E-5
min	-1.75E-3	-1.41E-4	-6.26E-4	-1.00E-4	1.30E-5
25%	-8.00E-6	-5.00E-6	-9.00E-6	3.00E-6	1.40E-5
50%	1.00E-6	2.00E-6	4.00E-6	1.30E-5	3.80E-5
75%	1.60E-5	9.00E-6	1.60E-5	1.30E-5	6.80E-5
max	8.16E-4	1.18E-4	9.37E-4	6.50E-5	1.80E-4

Table 3: Summary Statistics for ETH-PERP since Oct 2021

	rate_mango	rate_ftx	rate_dydx	rate_binance	rate_bitmex
mean	-3.00E-6	4.78E-7	-2.27E-7	4.00E-6	4.10E-5
std	5.20E-5	9.65E-6	1.79E-5	1.10E-5	3.10E-5
min	-1.75E-3	-3.60E-5	-8.67E-5	-1.00E-4	1.30E-5
25%	-1.20E-5	-6.00E-6	-1.10E-5	-1.00E-6	1.30E-5
50%	-2.00E-6	0.00E+0	1.19E-6	8.00E-6	3.10E-5
75%	6.00E-6	6.00E-6	1.15E-5	1.30E-5	5.80E-5
max	8.16E-4	1.18E-4	9.79E-5	1.30E-5	1.80E-4

Table 4: Summary Statistics for ETH-PERP since Jan 2022

	rate_mango	rate_ftx	rate_dydx	rate_binance	rate_bitmex
mean	6.00E-6	4.87E-7	-2.00E-6	8.00E-6	4.10E-5
std	6.10E-5	1.93E-5	4.50E-5	2.10E-5	3.50E-5
min	-9.53E-4	-1.39E-4	-3.77E-4	-1.71E-4	1.30E-5
25%	-1.90E-5	-1.10E-5	-2.30E-5	2.00E-6	1.30E-5
50%	-2.00E-6	-1.00E-6	-7.00E-6	1.30E-5	2.90E-5
75%	2.40E-5	1.10E-5	8.00E-6	1.30E-5	5.70E-5
max	5.73E-4	8.90E-5	9.37E-4	1.02E-4	2.45E-4

Table 5: Summary Statistics for SOL-PERP since Oct 2021

	rate_mango	rate_ftx	rate_dydx	rate_binance	rate_bitmex
mean	-1.73E-5	-8.00E-6	-1.30E-5	5.12E-7	3.40E-5
std	4.94E-5	1.50E-5	2.14E-5	2.07E-5	2.40E-5
min	-9.53E-4	-1.39E-4	-2.78E-4	-1.71E-4	1.30E-5
25%	-2.76E-5	-1.50E-5	-2.19E-5	-5.50E-6	1.30E-5
50%	-1.22E-5	-8.00E-6	-1.01E-5	7.25E-6	2.70E-5
75%	-1.31E-7	1.00E-6	4.34E-7	1.25E-5	4.80E-5
max	4.32E-4	5.90E-5	9.12E-5	1.25E-5	1.18E-4

Table 6: Summary Statistics for SOL-PERP since Jan 2022

5 Conclusion

In this paper we have analyzed funding rate calculation and behavior for perpetual futures across five major exchanges and 3 underliers. Overall, funding rates appear to have become more stable over time, although they still exhibit sharp behavior during times of market volatility. As of the time of writing, of the exchanges considered rates are tightest on FTX and Binance and widest on Mango Markets and dYdX. Rates on decentralized exchanges are more volatile than those on centralized exchanges and contain substantially more outliers.

Based on the data considered, neither funding rates nor funding rate returns appear to be normally distributed. Across the products examined, rate distributions generally exhibit heavy tails and skewness. Furthermore, rate data contains large amounts of extreme values, indicating anomalous behavior. Across the period considered, the data distribution is non-stationary, due to variance in market conditions and network function.

Funding appears to exhibit significant autocorrelation in the short term with weaker mean reversion in the medium term. This trend holds across the exchanges and collateral types considered.

Given the novelty of perpetual futures contracts, we expect these trends to continue to develop and change as trading volume increases and market structure matures over time.

6 Disclaimer and Risks

All decentralized stablecoins carry risks related to their usage and price stability. Please review UXD Protocol's Risks section in the docs for more information on potential risks. https://docs.uxd.fi/uxdprotocol/overview/risks

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