BlockScholes

CRYPTO DERIVATIVES
Analytics Report

9 MARCH 2023

Comments or questions: research@blockscholes.com

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At a Glance

ANNUALISED FUTURES YIELDS

	1M	3M	6M	1Y
BTC	+2.84%	+2.53%	+2.52%	+2.69%
ETH	+2.42%	+2.62%	+2.28%	+2.27%

ATM IMPLIED VOLATILITY

	1W	1M	3M	6M	1Y
BTC	45.1%	46.9%	49.8%	52.2%	45.6%
ETH	47.9%	51.5%	55.5%	57.6%	50.4%

KEY INSIGHTS

Spot yields implied by futures prices have trended lower for both assets, as has at-the-money implied volatility at all tenors. There is a more significant skew towards OTM puts in both assets, and a low perpetual swap funding rates suggest a lower interest in excess exposure to up or downside action through the perpetual than we saw in the first two months of the year.

- **BTC ANNUALISED YIELDS** - spot yields remain positive but continue a trend towards zero
- **ETH ANNUALISED YIELDS** - fall closer towards zero than BTC's but continue to trade sideways

- **BTC FUNDING RATE** - continue last week's trend of little outsized interest in perpetual swap long or short exposure
- **ETH FUNDING RATE** - sees a small positive rate paid to short perpetual swap positions in the last 24 hours

- **BTC SABR ATM IMPLIED VOLATILITY** - 1 month tenor options recover slightly, with longer term tenors trending lower
- **ETH SABR ATM IMPLIED VOLATILITY** - trades between 45-60% across the term structure, marginally higher than BTC's

- **BTC IMPLIED VOL SURFACE** - cools across the surface except for OTM puts at a 1 week tenor
- **ETH IMPLIED VOL SURFACE** - sees a surface-wide cooling as implied volatility falls across the tenor and delta domains

- **BTC 25 DELTA PC SKEW** - has begun a trend towards OTM puts over the last few days, led by shorter tenor options
- **ETH 25 DELTA PC SKEW** - shows less of a decisive trend towards a skew to OTM puts, but shows a more pessimistic outright level

**All data in tables recorded at a 10:00 UTC snapshot unless otherwise stated.*

Futures

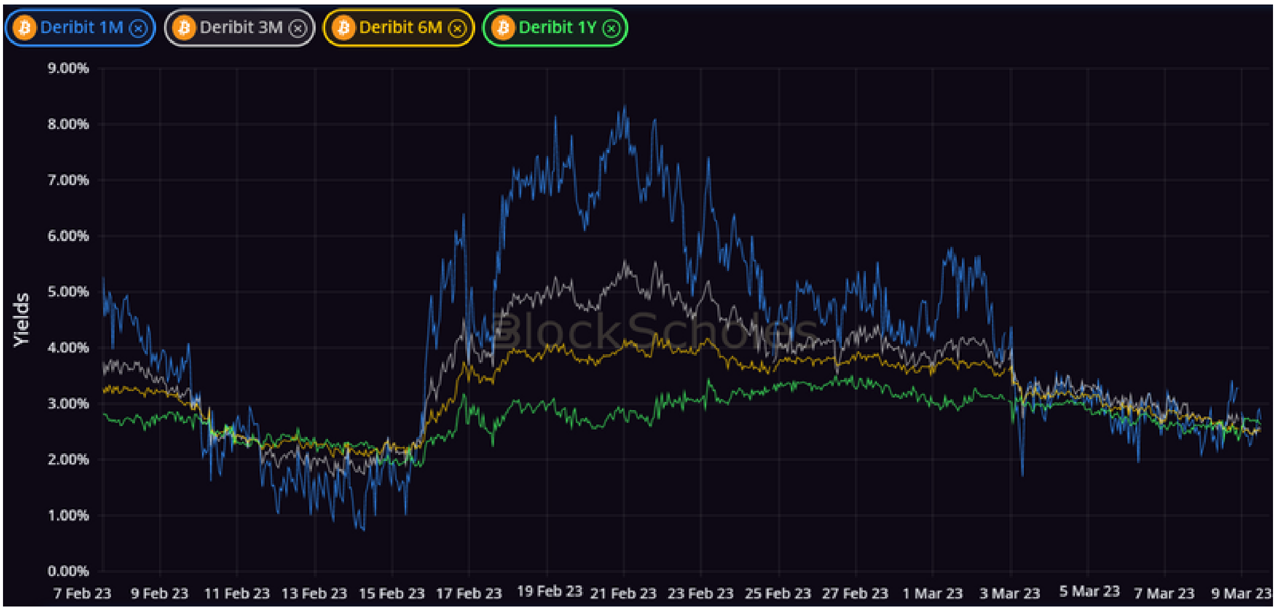
BTC ANNUALISED YIELDS

	1M	3M	6M	1Y
Today	+2.85%	+2.53%	+2.52%	+2.69%
02.03.23	+4.76%	+3.97%	+3.67%	+3.13%
09.02.23	+3.51%	+3.21%	+3.11%	+2.68%
09.12.22	-2.24%	-1.26%	-1.01%	-0.10%

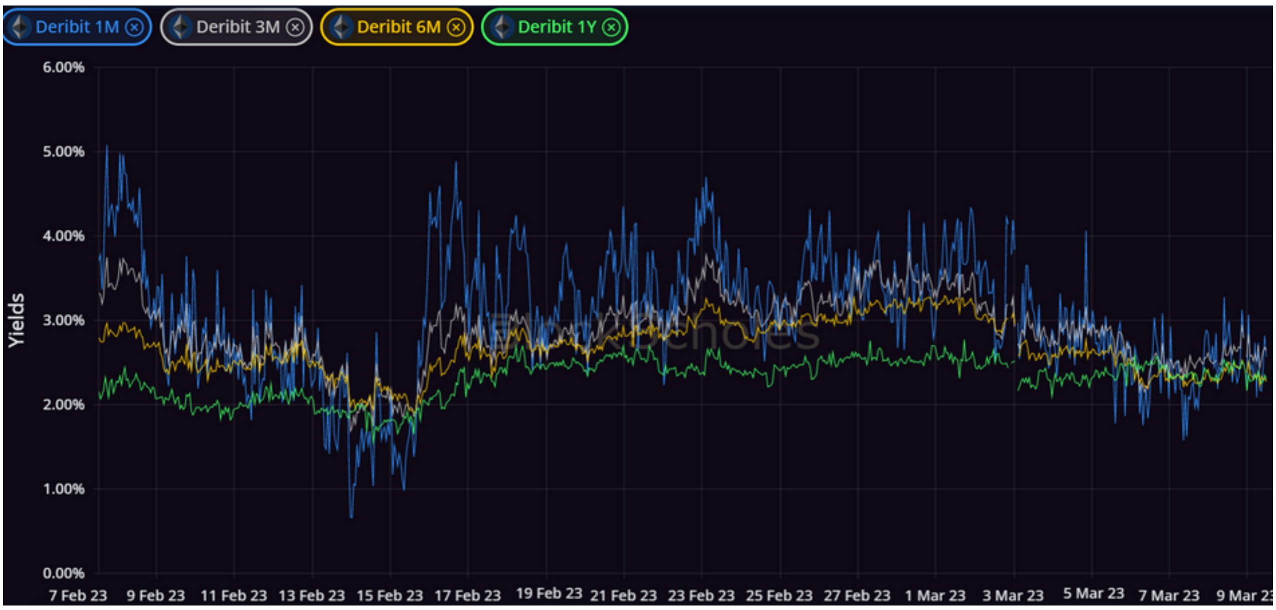
ETH ANNUALISED YIELDS

	1M	3M	6M	1Y
Today	+2.42%	+2.62%	+2.28%	+2.27%
02.03.23	+3.32%	+3.07%	+3.01%	+2.56%
09.02.23	+3.32%	+2.86%	+2.50%	+2.17%
09.12.22	-0.91%	-0.98%	-0.02%	-0.16%

BTC ANNUALISED YIELDS - spot yields remain positive but continue a trend towards zero

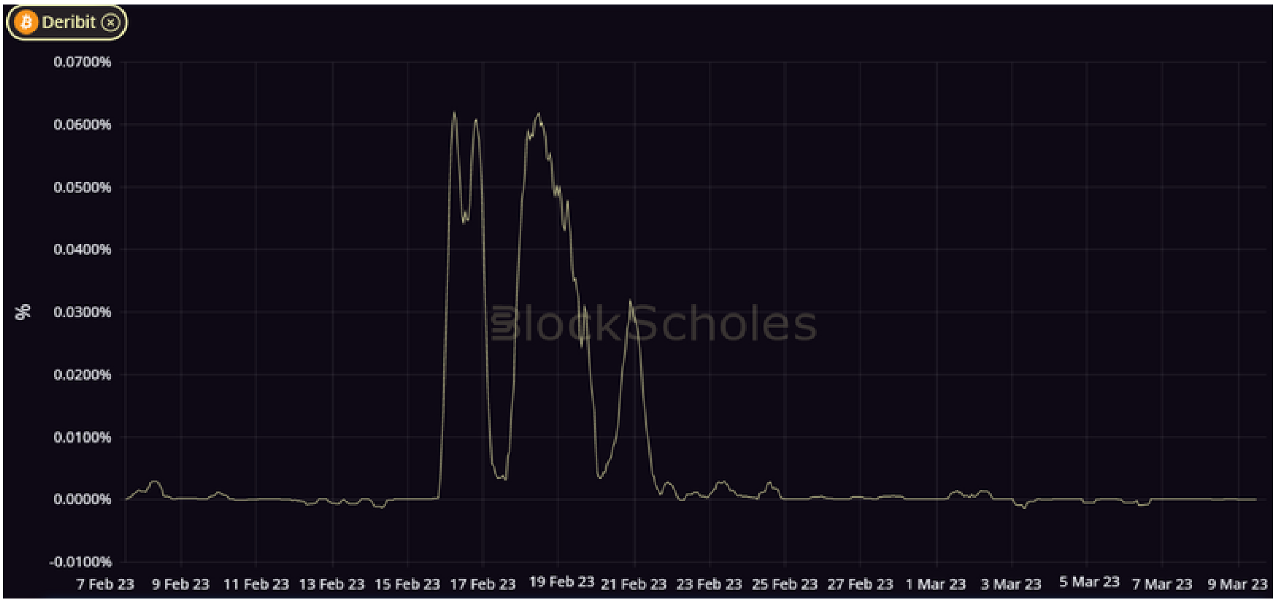


ETH ANNUALISED YIELDS - fall closer towards zero than BTC's but continue to trade sideways

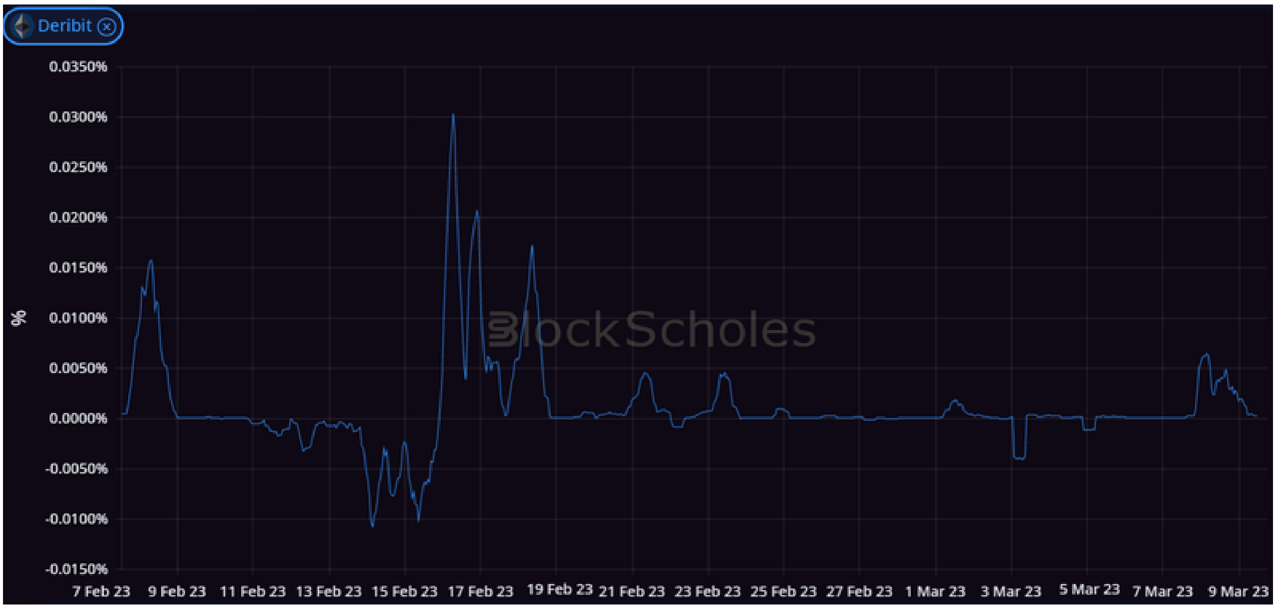


Perpetual Swap Funding Rate

BTC FUNDING RATE - continue last week's trend of little outsized interest in perpetual swap long or short exposure



ETH FUNDING RATE - sees a small positive rate paid to short perpetual swap positions in the last 24 hours



Options

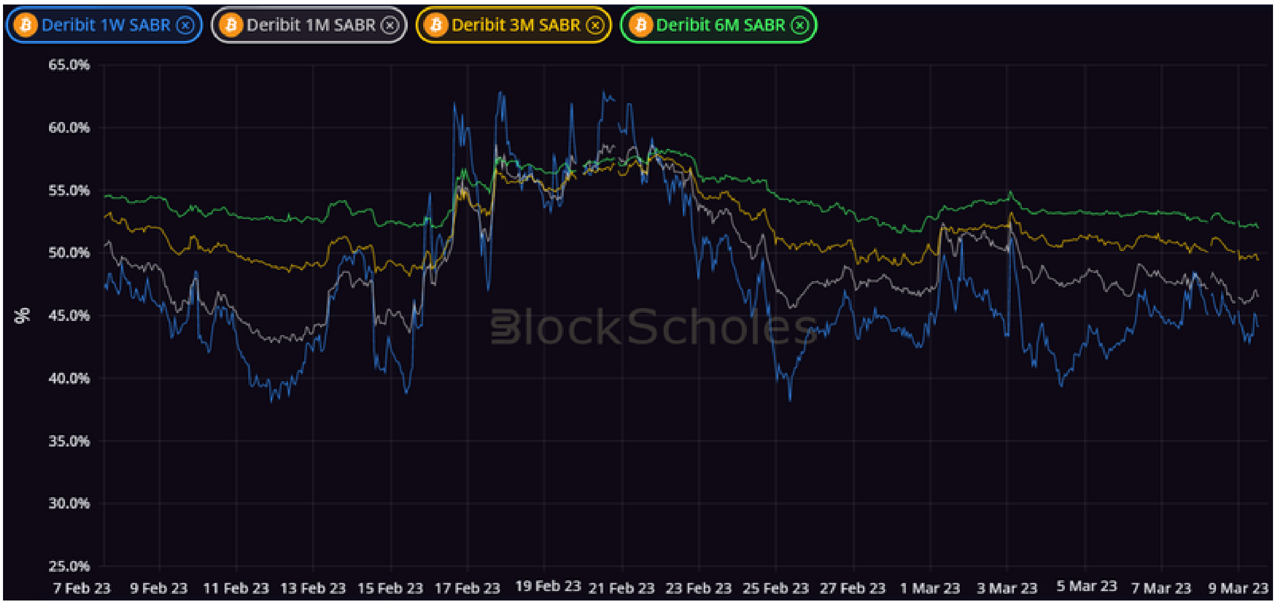
BTC ATM IMPLIED VOLATILITY

	1W	1M	3M	6M	1Y
Today	45.1%	46.9%	49.8%	52.2%	45.6%
02.03.23	47.0%	51.7%	52.3%	54.1%	49.4%
09.02.23	44.7%	46.1%	50.1%	53.3%	49.6%
09.12.22	43.2%	48.4%	56.5%	62.8%	55.4%

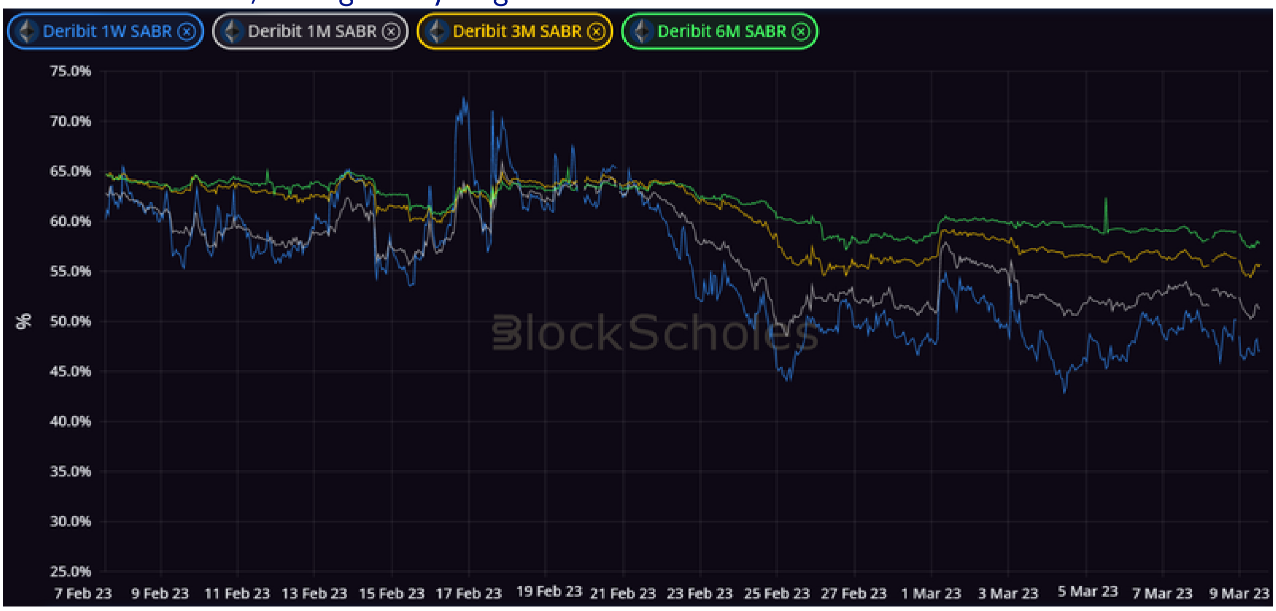
ETH ATM IMPLIED VOLATILITY

	1W	1M	3M	6M	1Y
Today	47.9%	51.5%	55.5%	57.6%	50.4%
02.03.23	51.8%	55.4%	58.2%	60.0%	54.9%
09.02.23	57.1%	59.0%	63.0%	63.2%	57.6%
09.12.22	59.6%	63.3%	70.3%	75.2%	66.8%

BTC SABR ATM IMPLIED VOLATILITY - 1 week tenor options recover slightly, with longer term tenors trending lower

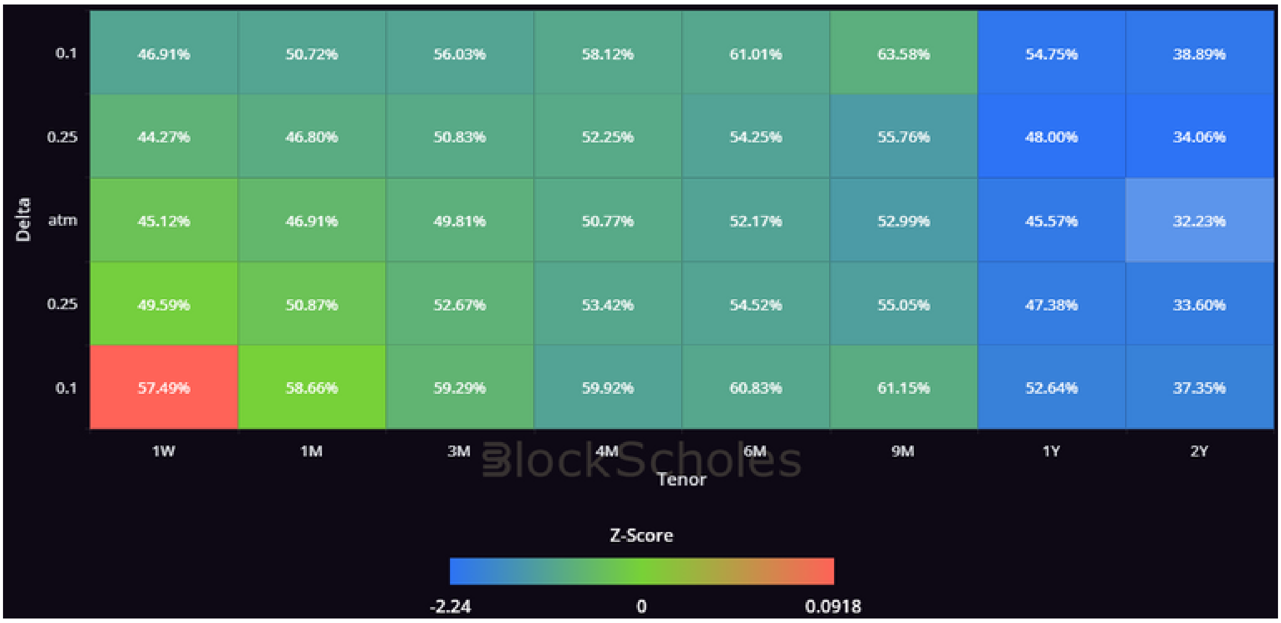


ETH SABR ATM IMPLIED VOLATILITY - trades between 45-60% across the term structure, marginally higher than BTC's

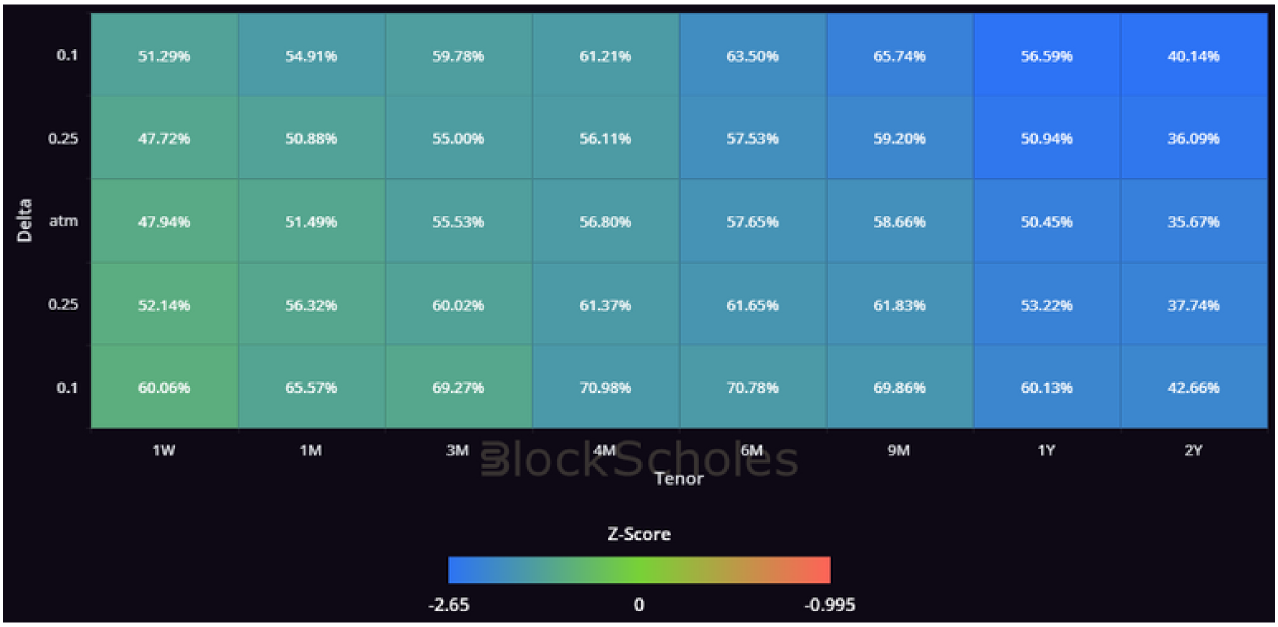


Volatility Surface

BTC IMPLIED VOL SURFACE - cools across the surface except for OTM puts at a 1 week tenor



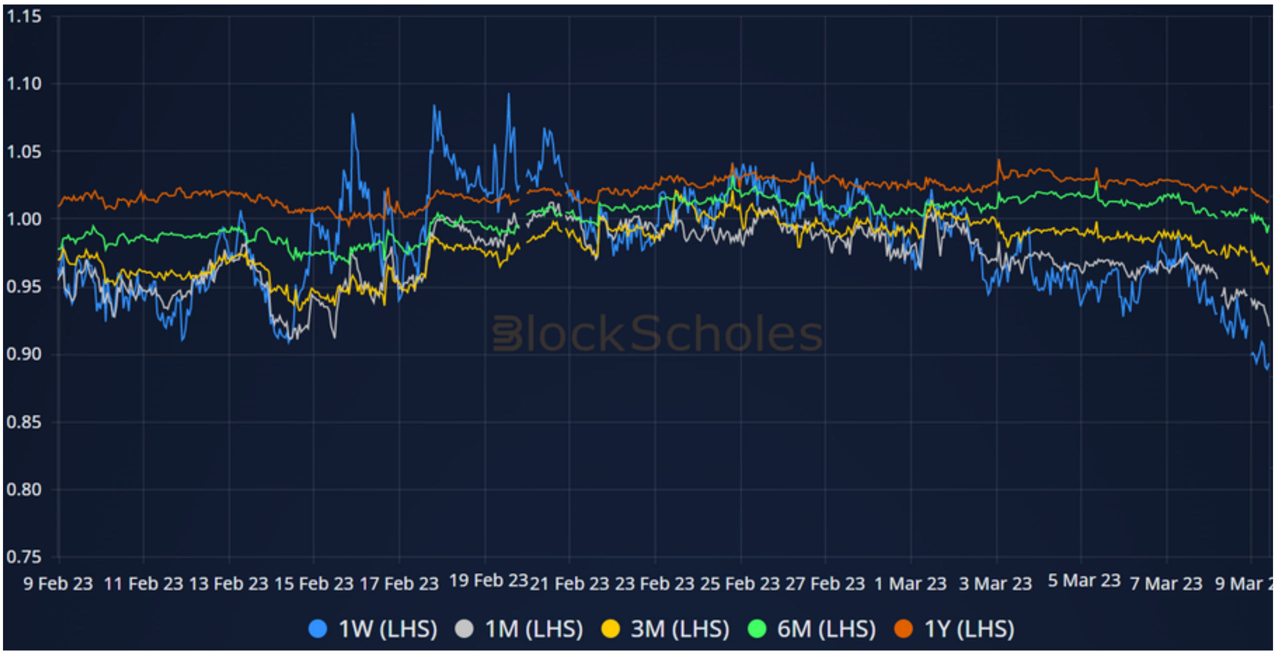
ETH IMPLIED VOL SURFACE - sees a surface-wide cooling as implied volatility falls across the tenor and delta domains



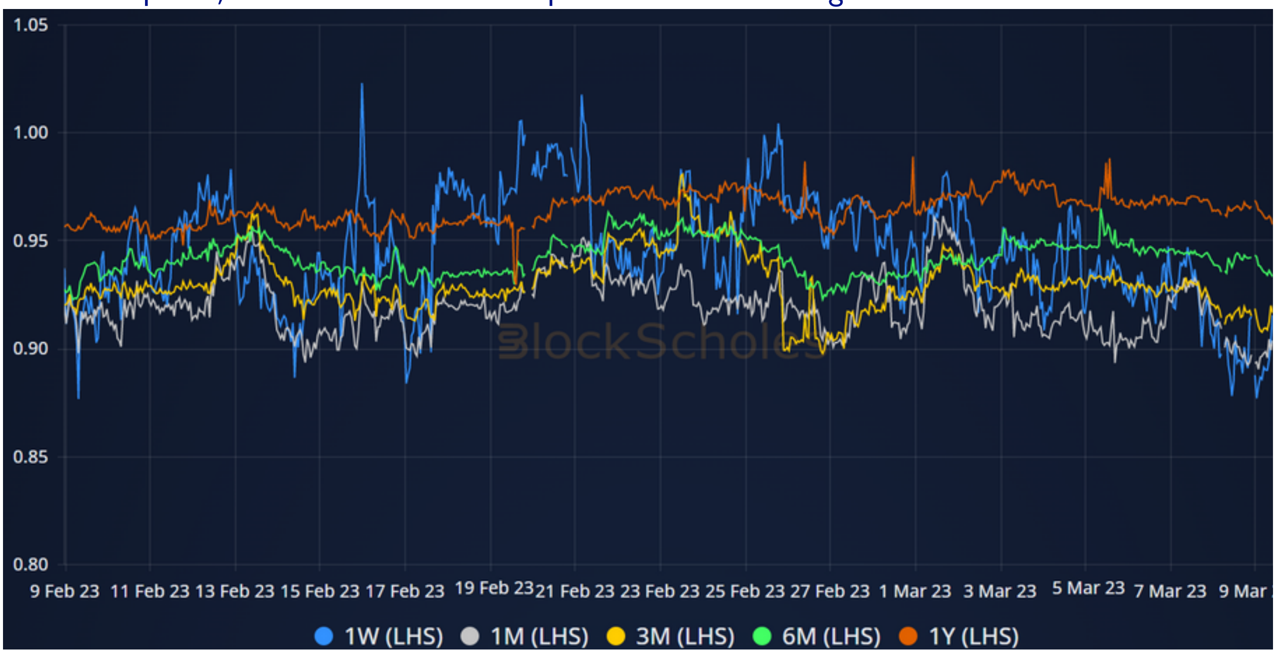
Z-Score calculated with respect to the distribution of implied volatility of an option at a given delta and tenor over the previous 30-days of hourly data, timestamp 10:00 UTC, SABR smile calibration

Put-Call Skew

BTC 25 DELTA PC SKEW - has begun a trend towards OTM puts over the last few days, led by shorter tenor options



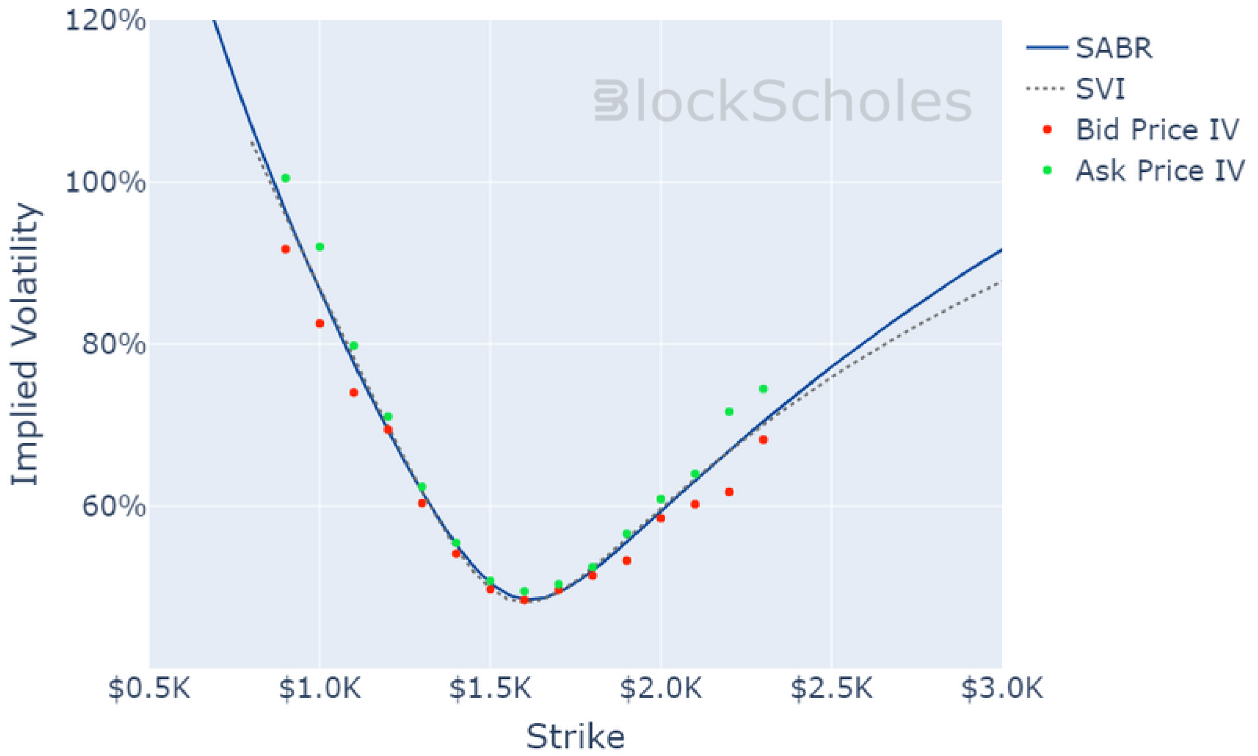
ETH 25 DELTA PC SKEW - shows less of a decisive trend towards a skew to OTM puts, but shows a more pessimistic outright level



Volatility Smiles

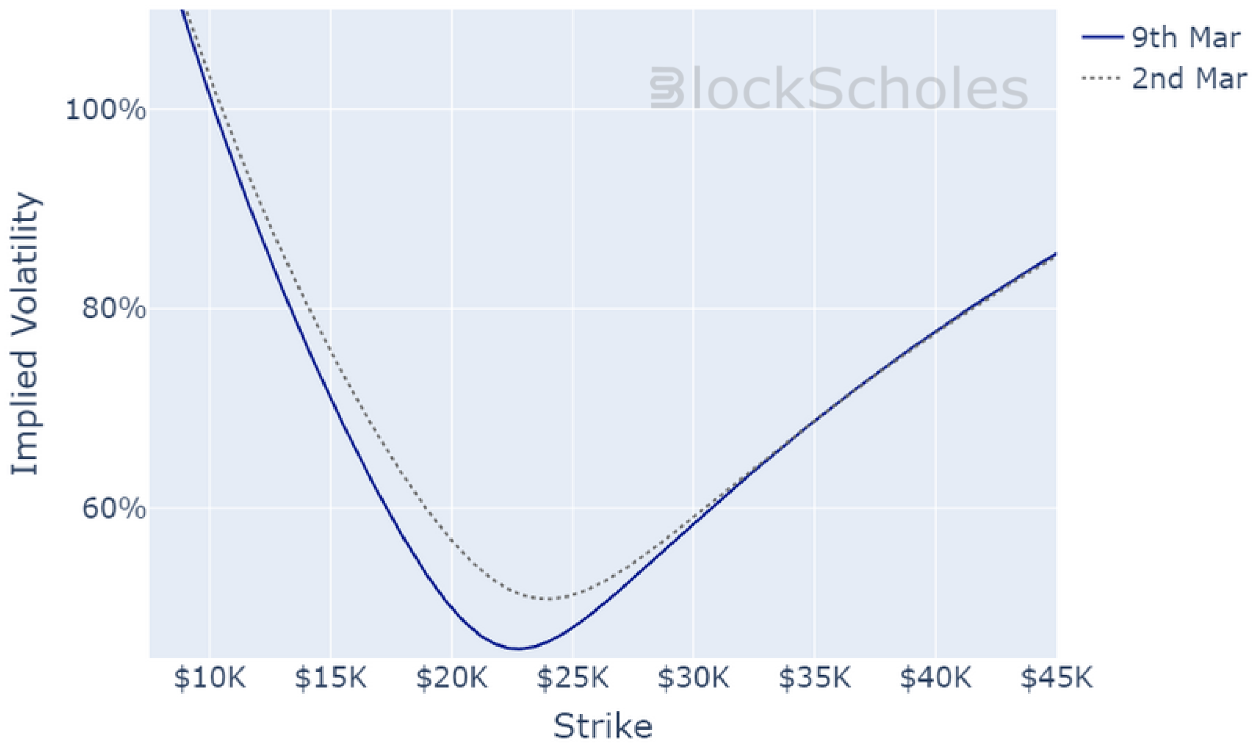
BTC SMILE CALIBRATIONS - 31-Mar-2023 Expiry, 13:00 UTC Snapshot

ETH SMILE CALIBRATIONS - 31-Mar-2023 Expiry, 13:00 UTC Snapshot

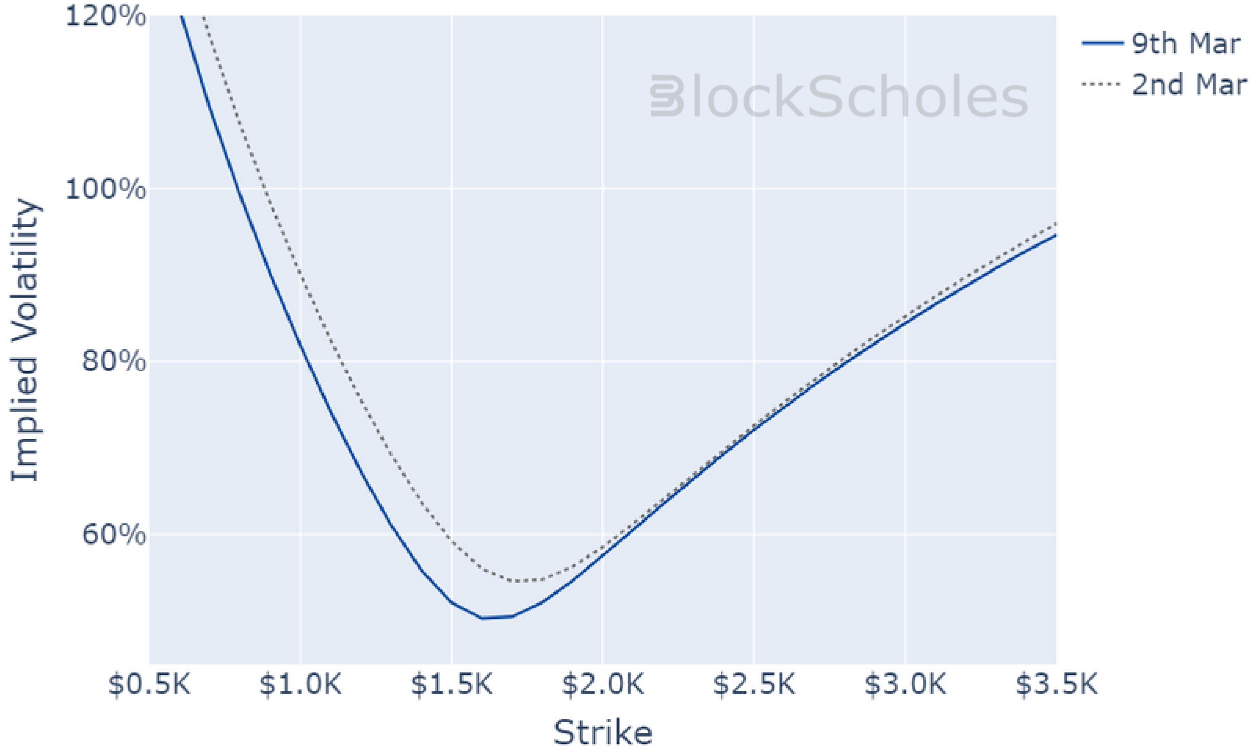


Historical SABR Volatility Smiles

BTC SABR CALIBRATION - 30 Day Tenor, 13:00 UTC Snapshot



ETH SABR CALIBRATION - 30 Day Tenor, 13:00 UTC Snapshot



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