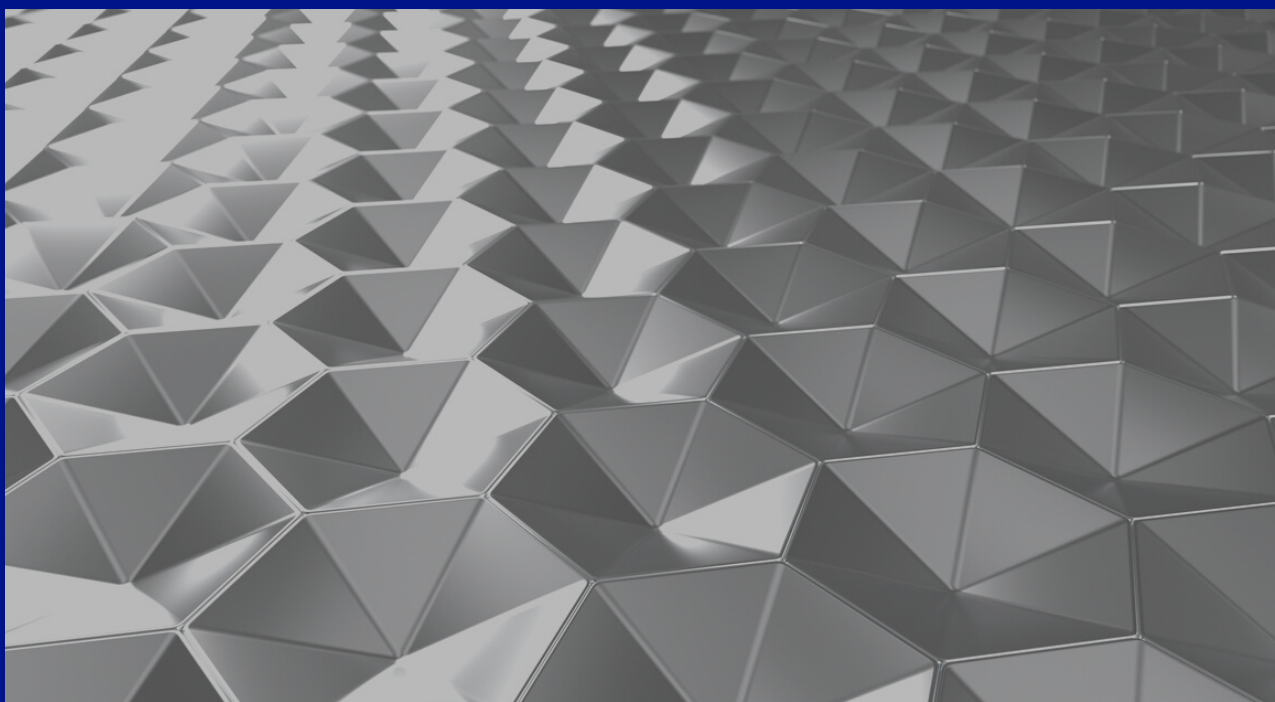


CRYPTO DERIVATIVES

Analytics Report

7 FEBRUARY 2023



At a Glance

ANNUALISED FUTURES YIELDS

	1M	3M	6M	1Y
BTC	+4.64%	+3.58%	+3.22%	+2.80%
ETH	+3.57%	+3.19%	+2.77%	+2.18%

ATM IMPLIED VOLATILITY

	1W	1M	3M	6M	1Y
BTC	45.2%	49.2%	51.7%	53.9%	49.9%
ETH	59.2%	62.4%	64.2%	64.3%	58.3%

KEY INSIGHTS

At-the-money implied volatility has continued to trade sideways at its higher, post-rally levels. Futures prices of both BTC and ETH remain above their spot prices, but have shown signs of a small, downwards trend towards spot prices over the last few days. The skew towards OTM calls that we saw in response to January's strong price action has almost been reversed, with the volatility smiles of both assets showing a slight preference for OTM puts once again.

- **BTC ANNUALISED YIELDS** - trend downwards at all tenors whilst remaining comfortably above 0%
- **ETH ANNUALISED YIELDS** - continue to move sideways at slightly higher levels above 0% than we saw this time last week
- **BTC FUNDING RATE** - spiked positively late last week in response to the demand for long exposure on Thursday
- **ETH FUNDING RATE** - did not spike to the same heights as BTC's on Thursday, despite its spot price enjoying a comparable rally
- **BTC SABR ATM IMPLIED VOLATILITY** - remains depressed with a small downwards trend noted in the last few days
- **ETH SABR ATM IMPLIED VOLATILITY** - trades sideways, nearly 15 vol points higher than BTC's at the same tenors
- **BTC IMPLIED VOL SURFACE** - experiences surface-wide cooling, in OTM puts and calls, as well as ATM
- **ETH IMPLIED VOL SURFACE** - sees a rise in the implied volatility of 10-delta puts, particularly at a 1M tenor
- **BTC 25 DELTA PC SKEW** - drifts towards OTM puts over the last week, with only 1Y tenor options expressing a small preference for OTM calls
- **ETH 25 DELTA PC SKEW** - is much more skewed towards OTM puts than BTC's, with all tenors displaying a significant tilt towards OTM puts

Futures

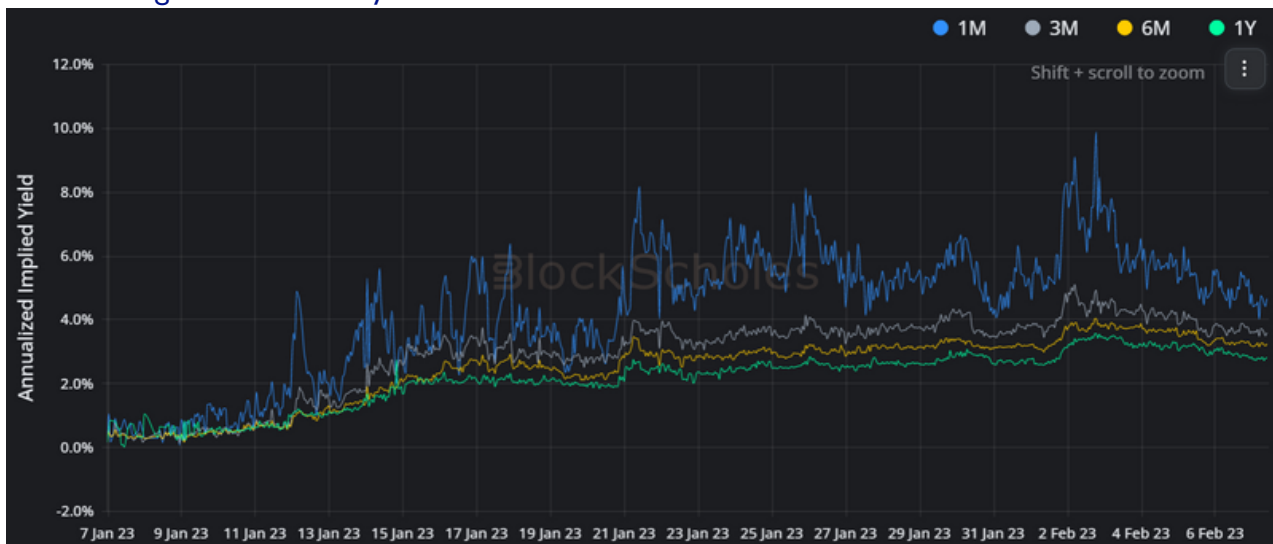
BTC ANNUALISED YIELDS

	1M	3M	6M	1Y
Today	+4.64%	+3.58%	+3.22%	+2.80%
31.01.23	+4.34%	+3.57%	+3.14%	+2.69%
07.01.23	+0.72%	+0.42%	+0.40%	+0.07%
07.11.22	+1.55%	+1.52%	+1.34%	+1.01%

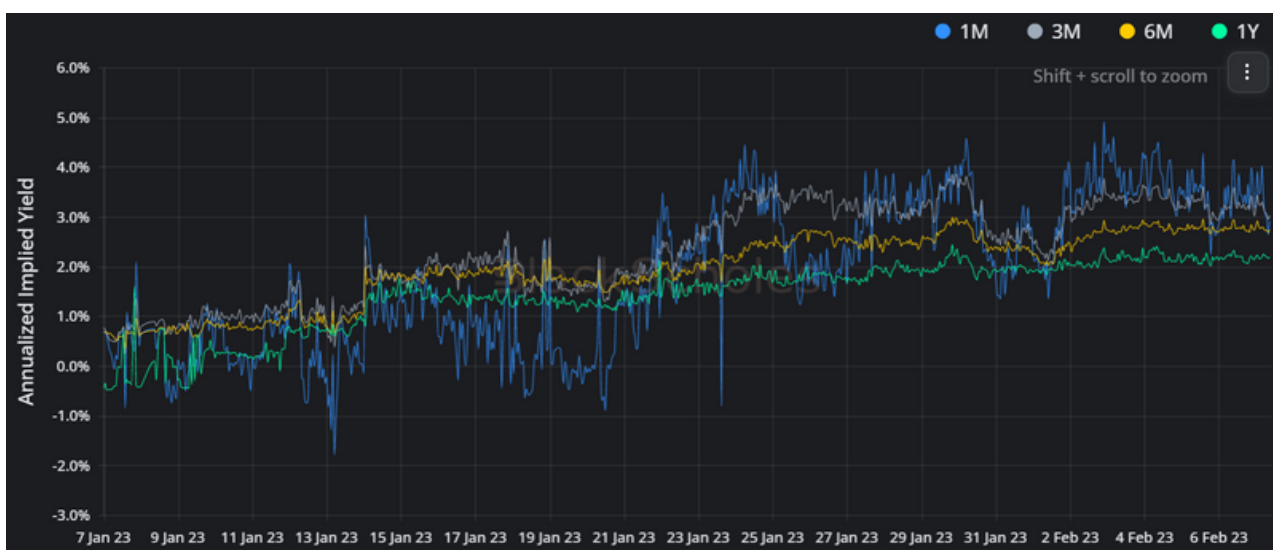
ETH ANNUALISED YIELDS

	1M	3M	6M	1Y
Today	+3.57%	+3.19%	+2.77%	+2.18%
24.01.23	+2.13%	+2.62%	+2.34%	+1.93%
31.12.22	+0.64%	+0.69%	+0.60%	-0.02%
31.10.22	-0.55%	-0.03%	-0.14%	-0.31%

BTC ANNUALISED YIELDS - trend downwards at all tenors whilst remaining comfortably above 0%

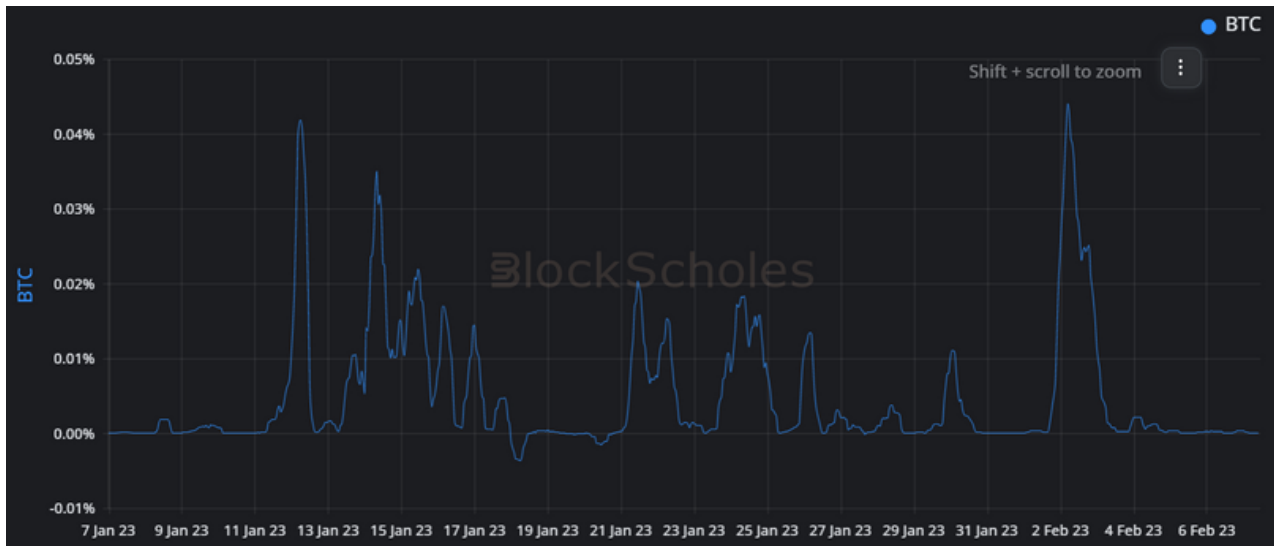


ETH ANNUALISED YIELDS - continue to move sideways at slightly higher levels above 0% than we saw this time last week

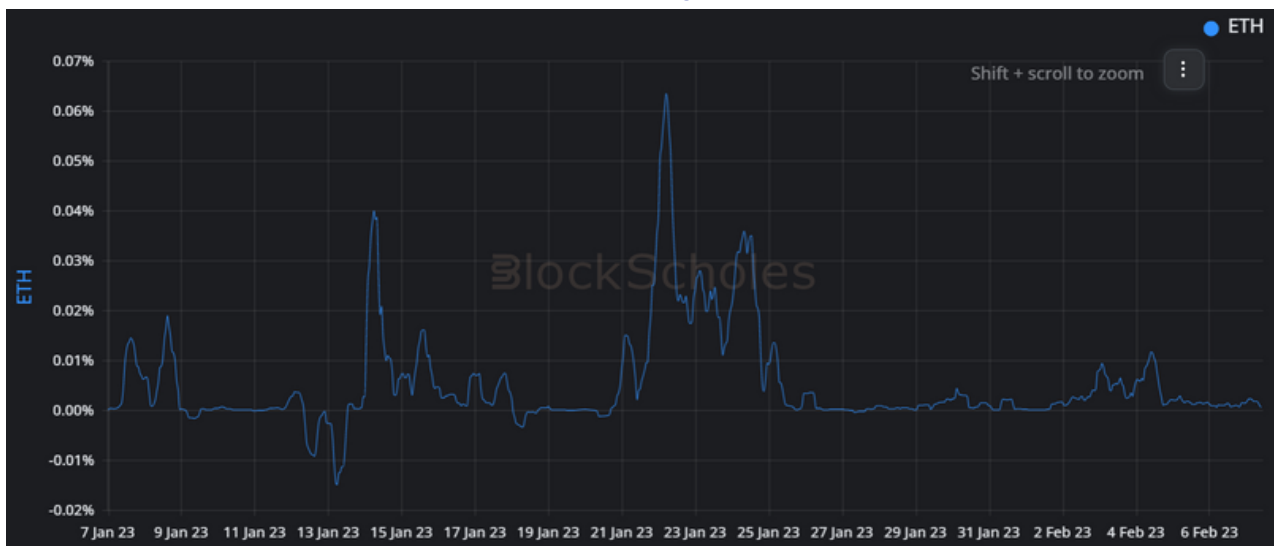


Perpetual Swap Funding Rate

BTC FUNDING RATE - spiked positively late last week in response to the demand for long exposure on Thursday



ETH FUNDING RATE - did not spike to the same heights as BTC's on Thursday, despite its spot price enjoying a comparable rally



Options

BTC ATM IMPLIED VOLATILITY

	1W	1M	3M	6M	1Y
Today	45.2%	49.2%	51.7%	53.9%	49.9%
31.01.23	54.4%	52.1%	52.4%	53.9%	51.8%
07.01.23	27.5%	36.8%	47.7%	53.1%	54.5%
07.11.22	51.5%	52.5%	56.8%	61.4%	58.0%

ETH ATM IMPLIED VOLATILITY

	1W	1M	3M	6M	1Y
Today	59.2%	62.4%	64.2%	64.3%	58.3%
31.01.23	59.9%	60.3%	61.7%	62.7%	60.8%
07.01.23	40.3%	51.5%	59.7%	62.6%	63.9%
07.11.22	78.9%	78.3%	79.5%	81.5%	74.7%

BTC SABR ATM IMPLIED VOLATILITY - remains depressed with a small downwards trend noted in the last few days

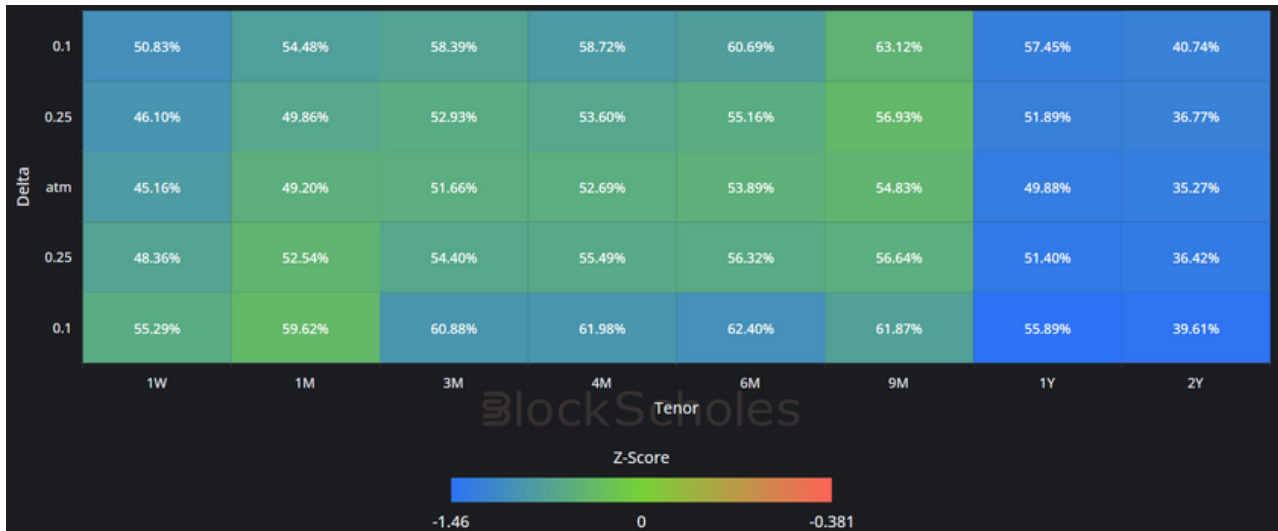


ETH SABR ATM IMPLIED VOLATILITY - trades sideways, nearly 15 vol points higher than BTC's at the same tenors

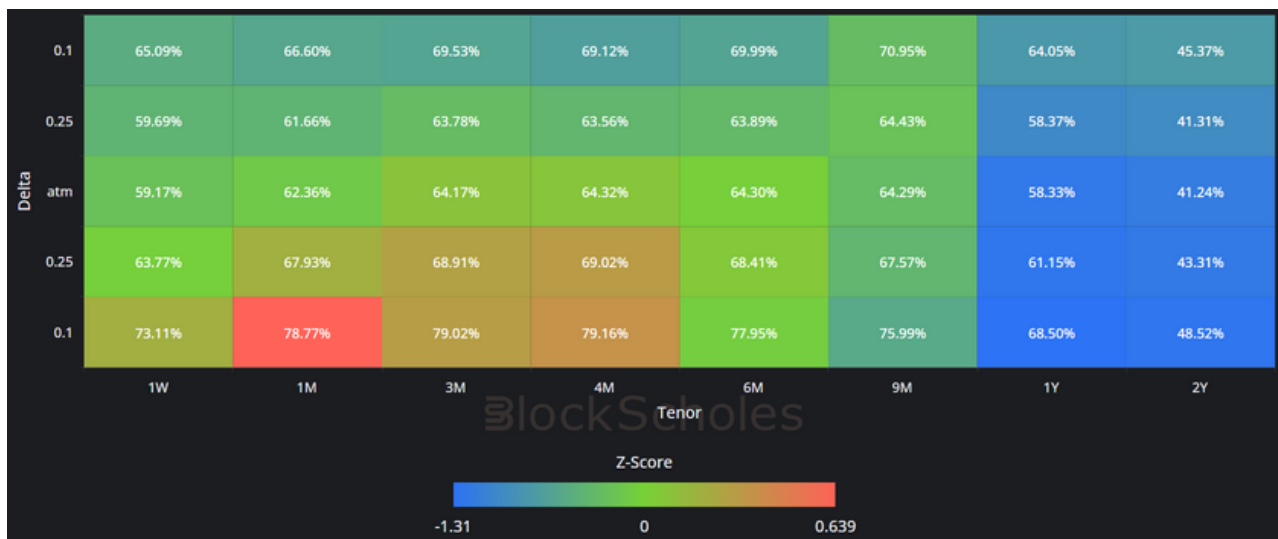


Volatility Surface

BTC IMPLIED VOL SURFACE - experiences surface-wide cooling, in OTM puts and calls, as well as ATM



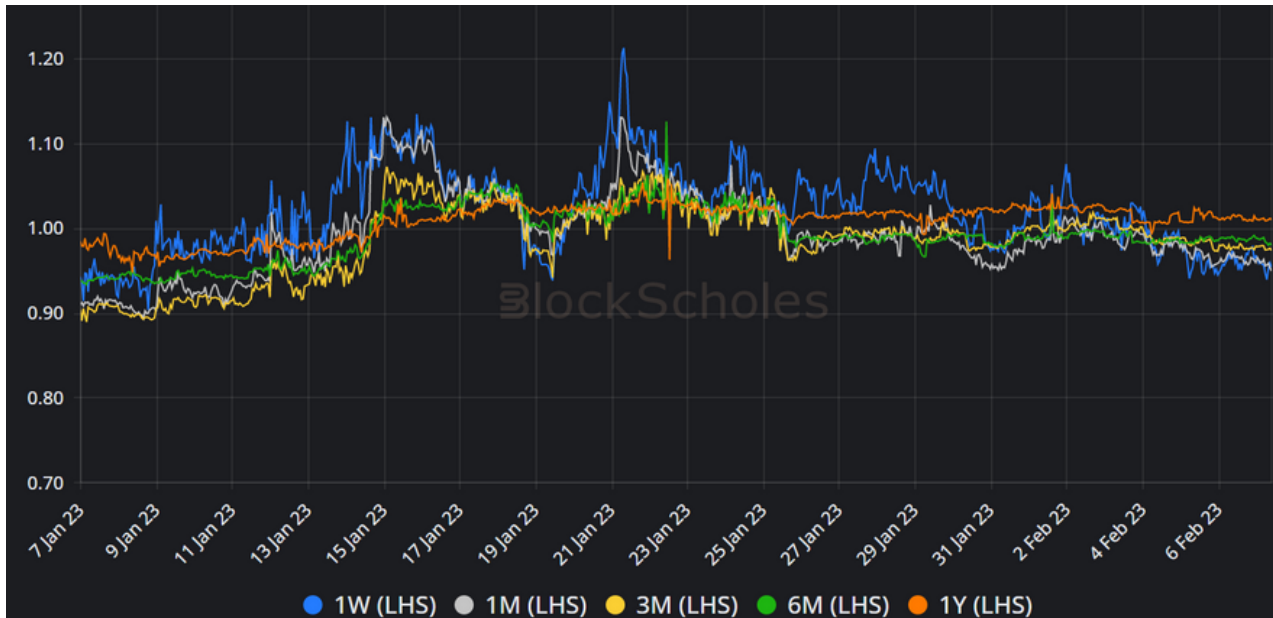
ETH IMPLIED VOL SURFACE - sees a rise in the implied volatility of 10-delta puts, particularly at a 1M tenor



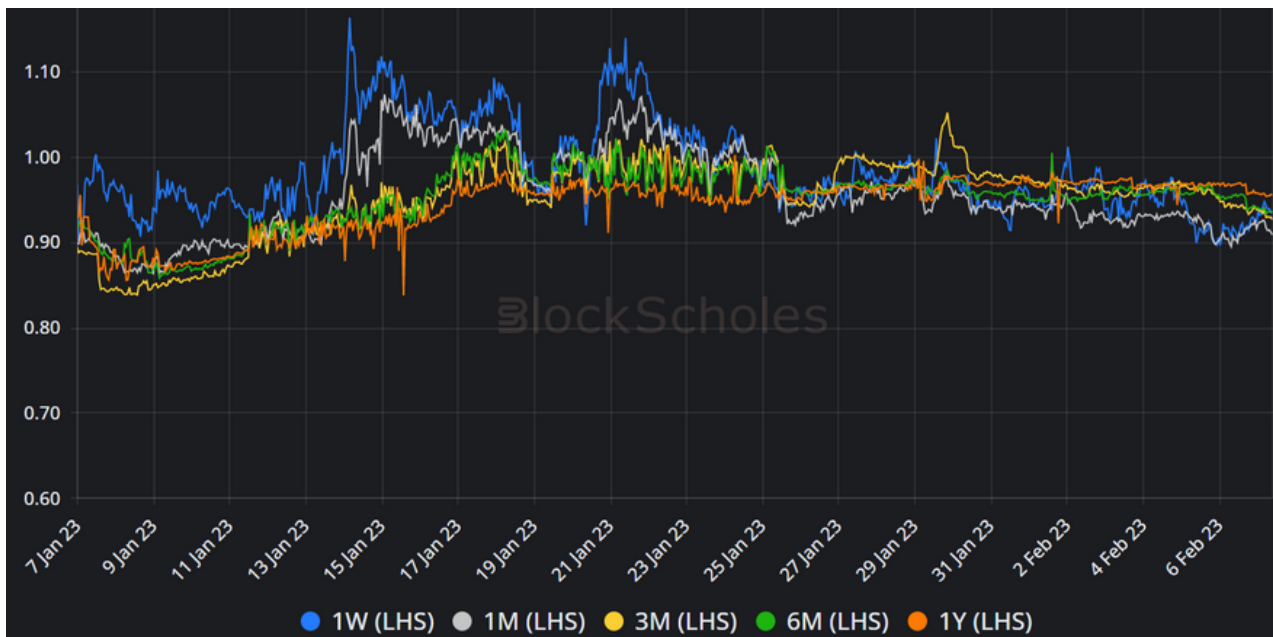
Z-Score calculated with respect to the distribution of implied volatility of an option at a given delta and tenor over the previous 30-days of hourly data, timestamp 10:00 UTC, SABR smile calibration

Put-Call Skew

BTC 25 DELTA PC SKEW - drifts towards OTM puts over the last week, with only 1Y tenor options expressing a small preference for OTM calls

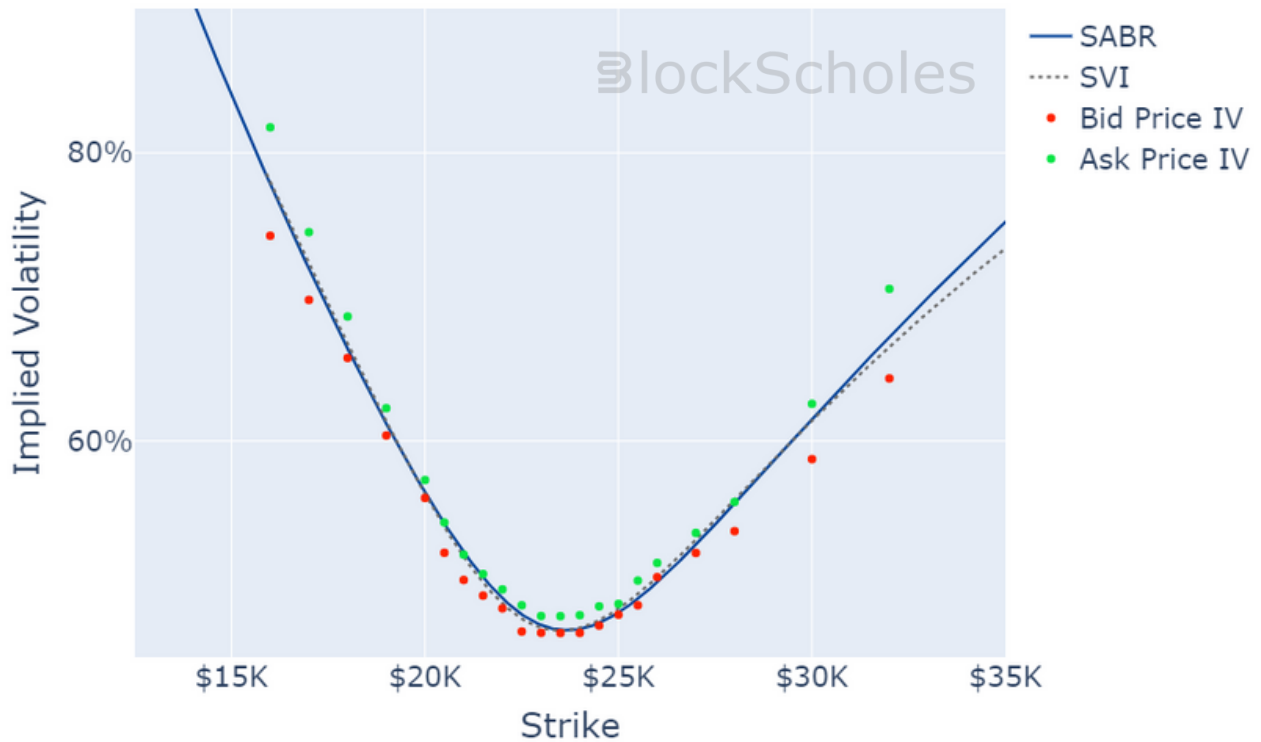


ETH 25 DELTA PC SKEW - is much more skewed towards OTM puts than BTC's, with all tenors displaying a significant tilt towards OTM puts

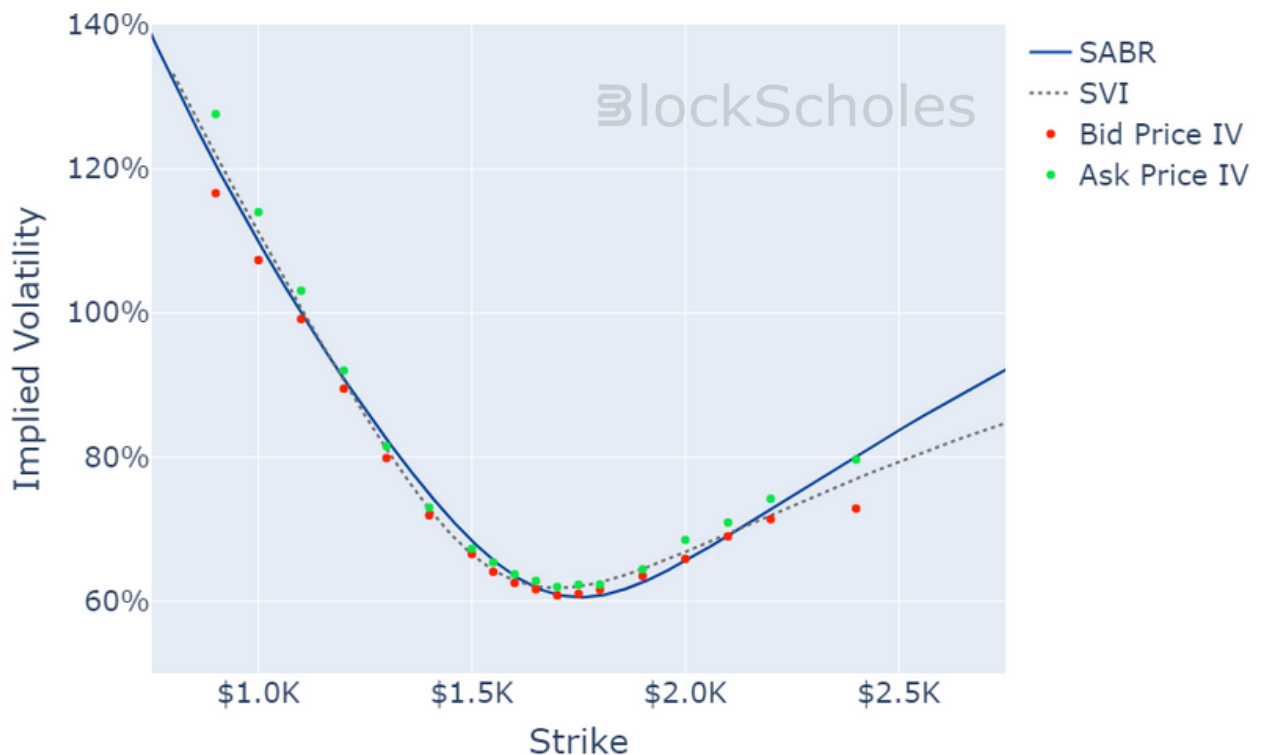


Volatility Smiles

BTC SMILE CALIBRATIONS - 24-Feb-2023 Expiry, 10:00 UTC Snapshot

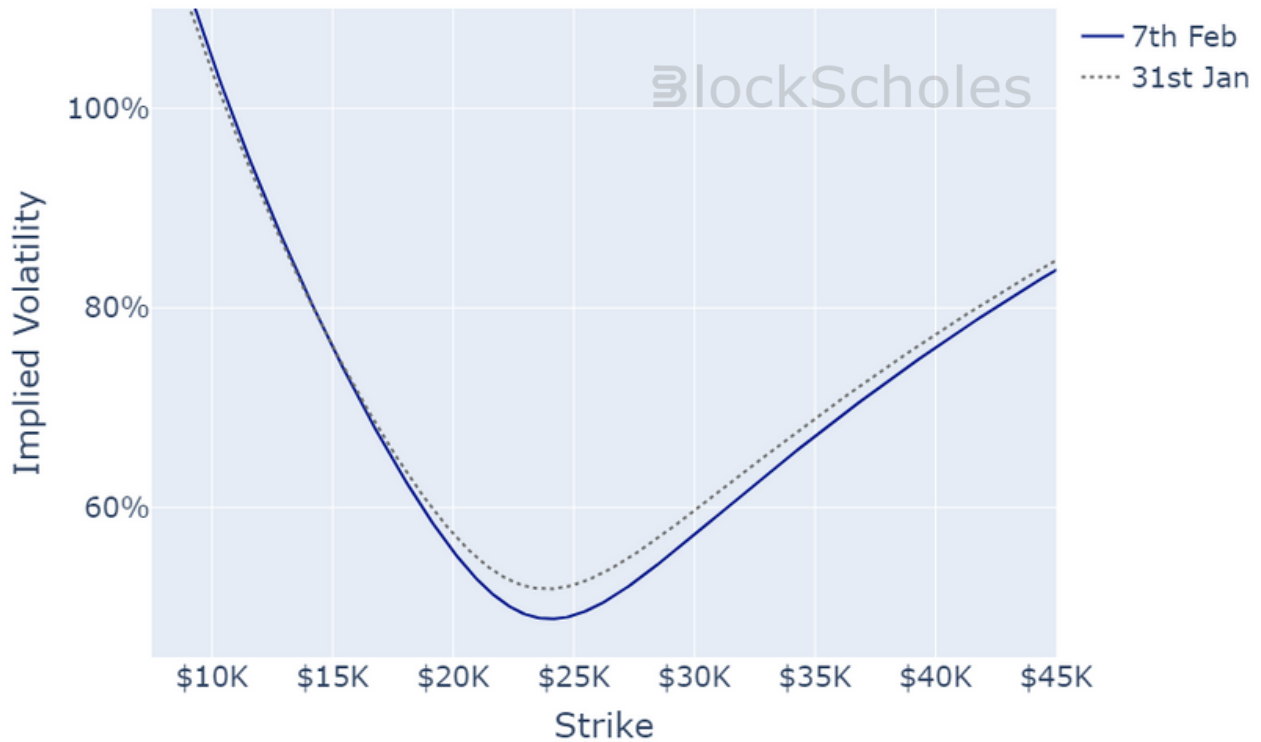


ETH SMILE CALIBRATIONS - 24-Feb-2023 Expiry, 10:00 UTC Snapshot

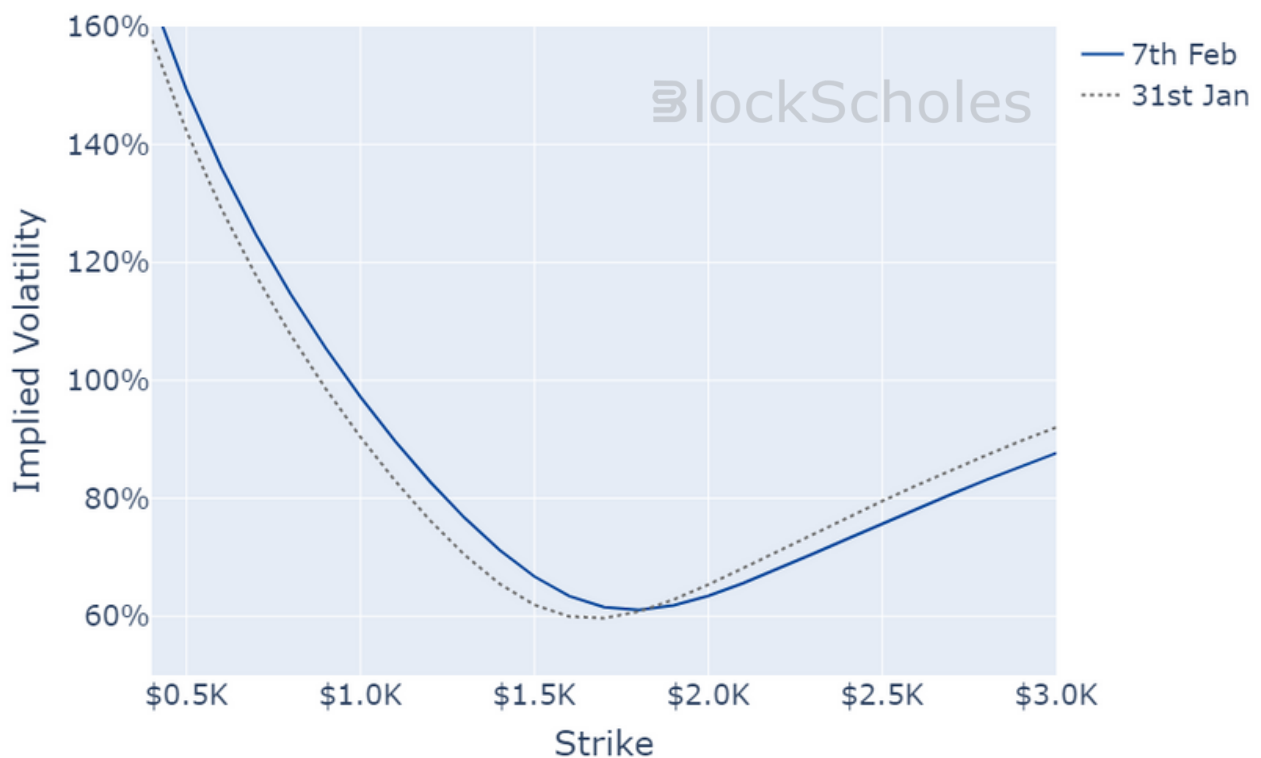


Historical SABR Volatility Smiles

BTC SABR CALIBRATION - 30 Day Tenor, 10:00 UTC Snapshot



ETH SABR CALIBRATION - 30 Day Tenor, 10:00 UTC Snapshot



AUTHORS



ANDREW MELVILLE

Research Analyst

andrew.melville@blockscholes.com



KARAN JESWANI

Quantitative Analyst

karan.jeswani@blockscholes.com



Block Scholes Ltd.



27 Old Gloucester Street
London WC1N 3AX



research@blockscholes.com

SUBSCRIBE TO OUR PLATFORM