Crypto Futures at Binance

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Binance now offers Crypto Futures so that BTC holders can hedge themselves from spot moves. But the auto-liquidation feature complicates the situation especially given the volatile nature of BTC prices. Let us look at a case. Suppose that I have 1 BTC and a futures contract where I pay 1 BTC for 5000 USDT after 1 year from now. I put a collateral of 50 USDT. And it is at the money now. Forgetting about the collateral, the price of the portfolio at any point would be

$$1spot(\mathrm{BTC}, t) + [5000spot(\mathrm{USDT}, t) - 1spot(\mathrm{BTC}, t)]$$

If the maintenance margin is not triggered till 1 year, this implies that the forward contract was always above -50 USDT. This means that that inherently it also embeds a barrier option in it. The updated portfolio price at any point would be

$$1spot(\mathrm{BTC}, t) + fwd(5000\mathrm{USDT}, 1\mathrm{BTC}, 1y, t) - 50binOption(5000\mathrm{USDT} - 1\mathrm{BTC}, -50, t)$$

We have made some assumptions here:

1. There is no margin call. The exchange auto-liquidates once the collateral is not sufficient rendering XVA-like treatment ineffective.

2. There is no penalty charged by the exchange for unwinding the positions.

3. The drift for BTC or USDT is taken to 0. Now, that we have flexi and fixed deposits for select crypto-currencies, it is possible to imply a term-structure of spot rates.