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Thread by @PelionCap: 1) My threads are written with options specialists in mind. However, I also appreciate and am humbled by the large number of followers that...

1) My threads are written with options specialists in mind. However, I also appreciate and am humbled by the large number of followers that are interested in the commentary as a process to learn about and interpret option market activity. This thread will hopefully help a little.

2) Options are so popular in traditional markets because they allow market participants to express views with an affordable outlay premium, flexibility, leverage and to an option buyer, less risk.

3) My commentary can, I hope, give an insight into the psyche, the fears, pain points and euphoria of individual players and the market as a collective environment, as well as simply getting regular updates on the main flows, critical trades and potential impact of these options.

4) This thread intends to explain more simply what I am talking about. It will define terms and go into high-level explanations of how any of this commentary can help, strategies employed by professionals and some mistakes made by amateurs.

5) This is not introductory level content on how to trade, nor is it financial advice. This stuff is tough, but it is easier than reading a 400page book. I have tried to keep the early technical stuff to a minimum. Later in the thread, it will become more practical.

- 6) In the future, time allowed, I will expand on some of these concepts and certainly, you will have more familiarity with terms I use in my option flow and market commentary.
- 7) So, let's start. The term I talk about most is Volatility [Vol]. Volatility is movement.
- 8) There are two types of Vol: Implied [IV] and Realised [RV]. RV is the amount the underlying market has been moving over certain time periods. IV is the culmination of market inputs that determines the actual price of an option, which indicates the expectation of volatility.
- 9) Vol is measured as a %. There are mathematical models, but simplistically every multiple of ~20% [digital assets: $\sqrt{365} = 19.1$] implies a 1% move in the underlying product over 24hours. I.e 60% means ~3% move a day.
- 10) BTC [+ETH] are high volatility products, 40%+ and sometimes >100% in extreme events. The level of IV is important as with few exceptions, you want to buy options when IV is cheap and sell when IV is expensive.
- 11) 'Cheap' and 'Expensive' IV are generally defined relative to RV. If RV is 80% and IV is 50%, then IV is said to be cheap. However, RV is based on historic data, but it tells you the volatility environment the market is in. 10d RV is the realised vol over the previous 10days.
- 12) In efficient markets, IV should tend towards RV over the same period, but there are many factors. The option flows I write about, when significant, can create inefficiencies and opportunities that are worth understanding.
- 13) As IV is a cumulative indicator of the cost of an option, demand and supply impact its valuation. If there is greater demand, IV is likely to firm/rise and vice-versa soften/fall should supply exceed.
- 14) Because options when bought, have a limited downside (the premium), but unlimited upside, they tend to be acquired when markets are more volatile, when you have an increased chance of payout in one direction and limited downside in the other, as opposed to futures/spot.

- 15) However, when markets are volatile, liquidity providers [LPs] are less willing to sell options and consequently, IV rises, ie more expensive. Vice-versa when the underlying spot is less volatile, LPs are fine selling options (to a point), IV softens ie lower price to sell.
- 16) The ideal scenario, which happens very infrequently, is when markets are volatile and IV is low/cheap to buy. This can come from outsized option flow that significantly moves IV, and then presents opportunities.
- 17) Vice-Versa, at the end of a highly volatile period, combined with material short-covering of options, IV can be pumped high relative to RV and offer opportunities to sell options.
- 18) So, who are the players in option markets that drive this IV equilibrium?
- 19) Not limited to: 'Directional funds', 'Yield enhancement strategy funds', 'Volatility funds', 'Miners', 'Whales', 'retail', 'Liquidity providers' (including market makers). What does each of these participants do?
- 20) Directional funds use outright options to express/leverage underlying views.
- 21) Simplistically, bullish strategies not limited to: buy calls, sell puts, buy spot+puts to hedge downside; bearish strategies: buy puts, sell calls, sell futures with buying calls as a stop; uncertainty: replace spot with options, use risk reduction collar strategies.
- 22) Yield enhancement funds employ different strategies to increase the yield on their spot holdings, eg cash+carry, option premium selling, most commonly, covered calls, but also strangles and selling outright naked calls to gain upside exposure.
- 23) Volatility funds (VFs) buy and sell volatility. This is a technical trade, where options are bought/sold and delta hedged neutral, locking in a level of IV. I will elaborate later.
- 24) Miners have a constant production of coins. Having costs to pay, they can sell coins or use calls to overwrite which gives some income. Alternatively, they can sell futures to lock in a level or buy puts or collars to hedge their production.

25) Whales or VHNW individuals/syndicates are active using options in many ways to leverage views, set stops, reduce their margin, circumnavigate liquidity or even trigger stops.

26) Retail, obviously smaller individuals, but when combined can signal to me (and therefore you) underlying sentiment, euphoria, and concerns.

27) Liquidity providers (LPs), in their different forms, provide prices and/or liquidity for end users. A significant portion of these LPs act in the same way as Vol funds, but more active. The most prevalent being volatility 'market makers' (MMs).

28) MMs and VFs are cognisant, more than the other groups, of the nuisances of options. This is where we start with the fundamentals and go into simple explanations of option greeks.

29) The strike price is the spot level of the chosen option. Maturity is the tenor of the option. A call is a bullish option allowing the buyer to buy spot at the strike price. A put option is a bearish option allowing the buyer to sell spot at the strike price.

30) So if I say 'a buyer of 26/6 20k calls', that means a buyer of call options at the 20k strike, expiring on 26th June. The buyer wants BTC spot to be above 20k on or before 26th June.

31) This is as simplistic as it gets. These kinds of call buyers are said to buy the calls 'naked' or 'unhedged'. It means they buy the options and do nothing else but pay and pray. To buy this option you pay a 'premium' – a cost. If you sell the option you receive the premium.

33) MMs and VFs take things a step or two further. When MM/VFs buy/sell an option they delta hedge so they are delta neutral. A delta of 1 (or 100%) moves the same as spot. A 0.5 (50%) delta means the option moves at 50% of the rate of spot.

34) Delta also defines the probability of that option being In-The-Money (ITM) ie for a call, $\text{spot} > \text{strike price}$. If $\text{spot} < \text{strike price}$, the call option is Out-of-The-Money (OTM).

35) At-The-Money (ATM) is associated with any strike price at or around spot which could range subjectively from 40-60% option deltas.

36) Therefore, if an option is 50delta (0.5), then to be delta-neutral, if I buy 10x 50delta calls, I would sell 5x BTC. Depending on the premium paid a mathematical model calculates an implied volatility level specific to that trade.

37) Within a range, it doesn't then matter about the movement of the underlying market, the delta hedge will offset any options move. So why do this?

38) Imagine if IV and RV are equal, ie efficient market. Say hypothetically $IV=RV=60\%$ and the option premium is \$500. Then if a large seller takes the price of the option to \$450, which let's say equates to 50% IV. MM buys the option, hedges delta neutral, locking in 50% IV.

39) The seller finishes, RV has not changed, so other value buyers enter the market. These buyers saw the 50% print, so they are not in a rush to pay 60%, but perhaps they are fine buying 55%, say \$475 option premium on the same spot reference.

40) The MM buyer at 50% then has the opportunity to take a profit, or continue holding. Note that if spot had moved, the option price would have moved by its respective delta, but the offsetting spot hedge would have negated any financial gain/loss. IV locked in.

41) This is what options MMs do all day in 100+ strikes across several maturities; VF's same but more strategically and less active.

42) Push a step further and if the MM buys the June 10k strike at 50%, he doesn't have to sell the same strike to profit; a mathematical model will determine an IV of another strike that also suffices.

43) MMs, therefore, accumulate large inventories of longs and shorts but often have no care in the underlying spot direction, but every care about IVs of all the strikes in all maturities they cover; they all present opportunities.

44) So this is the basic level activity of MMs. Buy vol low, sell vol high across a range of mathematically connected strikes and maturities.

45) We've learned about two greeks – Delta and Vega; Vega is a way of measuring how the premium of an option moves relative to an IV move.

46) Unfortunately holding options is not a free lunch. Holding an option is susceptible to option decay, greek Theta. Every moment of the day, there is a simple cost of holding an option. Of course, this is a benefit if selling an option, as the seller receives the theta income.

47) To compensate, option holders get Gamma. Gamma impacts the delta of an option in such a way that the more spot moves, the more the delta of an option changes. This generates free deltas; without going into the complexities, if this sounds like a good thing, it's because it is

48) The simplest way of assessing how good, is if the extra deltas you receive via gamma outweighs the theta. The breakeven is if the market realises a standard deviation move.

49) If you are more confused than a few paragraphs ago, this is not easy to grasp and I'm deliberately not going into detail, nor do you need to in order to read my commentary. The point is to illustrate the benefits of options to different participants: why and how they are used

50) For end-users, the concepts are fairly clear. For MMs and VFs, they buy the option if they feel IV is cheap and/or if they feel the market is going to move, due to gamma benefits. Conversely, MM+VF sellers think and want the opposite.

51) All these participants bring about short-term equilibrium in the options market.

52) The last technical element necessary to understand is 'skew'. If every strike from 1k-40k BTC had the same IV, you would have 'flat' skew.

53) In traditional markets, say equities, OTM puts trade at an IV premium to ATM, calls trade at a discount IV to ATM. That is because in equities, institutional longs like to use puts to protect, and also sell calls to enhance yield.

54) With traditional option market volumes much larger relative to the spot+futures market volumes, that leads to a positive (+ve) put skew and negative (-ve) call skew.

55) In BTC, there is a less continuous focus on protection, less call over-writing, more interest in leveraged upside call buying. As a consequence, this has lead historically to a flat to

slightly +ve put skew and firmly +ve call skew.

56) The +ve call skew just means that prices are higher for OTM calls than they would be if BTC behaved more like a traditional market with -ve call skew.

57) Well done for making it through the technical bits. So how does any of this apply to my market commentary, and how is it useful?

58) We buy options instead of futures as they have a limited downside as opposed to getting stopped out on a large adverse move.

59) Being long an option, we are susceptible to vega and theta. Theta is a constant battle, but we can be smart and buy options only when cheap, so vega can benefit rather than fight against us too.

60) Cheap is subjective. Some look at absolute levels, some compare IV with RV.

61) Conversely, we prefer to sell options when IV is expensive (absolute or relative). When we sell an option we collect theta every day; however, our potential losses are unlimited – so EXPERTS ONLY, please.

62) Here are some strategies that can be employed by different participants in different market environments:

63) Bullish Strategy 1) Naked Call buying when IV is cheap. 2) Long BTC and long a put for protection. For example long 10x BTC at 10k, long 10x 9.5k puts, so if puts cost \$300 each, the unlimited upside from the long BTC, downside protected to \$9.2k for the option duration.

64) Bullish Strategy 3) Long BTC, long OTM put, short OTM call. As in 2, but the put protection is financed by selling the call. This strategy is called a collar or risk-reversal and is employed by institutions in traditional markets frequently.

65) If you think about '3' and what has been said earlier in the thread, with a flat put skew and a +ve call skew, puts are priced low to buy and calls priced high to sell. Any strategy that takes advantage of anomalies is worth considering.

66) Example +10 BTC at 10k, +10 9k puts, -10 12k calls. Due to skew pricing, it is possible to get this asymmetric risk-reward pay-off in some maturities such that the puts and calls are the same premiums, so near-zero cost or whatever is comfortable.

67) The disadvantage of this structure (and selling any call) is that the upside is limited to the call strike price. Institutions care less about this, as the market structure will have made money, but BTC retail has a habit of being obsessed with outsized upside returns – moon.

68) These strategies also highlight that put buying and call selling isn't always bearish; they can be used with some intelligence to create restricted bullish strategies, that perform well.

69) Bearish strategy 1) Naked put buying when IV 'cheap'. 2) Short futures/spot, long a call as a 'Stop'. Just as you can adjust the tenor of a put to define the duration of protection or peace of mind, so you can use often short tenor calls to effect a stop.

70) Example: Short BTC at 10k + buy a short-term 10250 call for \$50. The call effectively guarantees a stop at 10.3k which may be preferential to a market stop and very effective with large positions where a futures stop could trigger larger moves due to liquidity at a key level

71) Naturally, these are the basics. Clearly, selling naked puts is bullish, selling naked calls is bearish, but these can lead to unlimited losses.

72) Selling options can clearly be profitable as theta is on your side as income, but just because you get an easy payday, the risks are significant.

73) Like entering the ring with Mike Tyson, you know you're going to get paid, but as the great man once said – 'Everyone has a plan until they get punched in the face.

74) Yield enhancement strategies come from selling options. Selling a strangle is one favoured strategy by some funds. The other, which is the only time a retail trade should consider using the 'sell' button for options (other than taking profits) is for covered calls.

75) This is because you are long the underlying spot BTC, so selling an upside OTM call when executed properly cannot lose your money. Eg +10x BTC at 10k, -10 1m 120% call at \$200. This locks in ~2% each month when executed.

76) But if BTC rallies the 20%, you see no more upside. It is important to note that covered calls are for yield enhancement, it does not protect your long BTC should the spot market fall as some on CT say; it only gives you an extra 2%.

77) Uncertain Strategy: If uncertain, don't trade is wise promulgated advice, but there are ways of using options to mitigate uncertainty.

78) Option Replacement Strategy – Say you buy 10x BTC at 10k and spot rallies to 13k. At this point, you are unsure if the market will keep rising in the immediate future, but you want to maintain upside exposure.

79) Buying 10x 13k short-term calls costing say \$300 each and selling your 10x BTC, would take profits, limit the downside to the premium, but still maintain upside benefits.

80) This is a well-employed technique at TA boundaries or in times of uncertainty or risk managing over-extension in traditional markets. ie you replace spot with options when cheap.

81) Tempering FOMO strategy: Imagine the above example but you hadn't bought BTC at 10k, but spot had now rallied to 13k. Now there is a sense of FOMO on future upside moves, but thankfully there is a nagging uncertainty.

82) The best strategy is to avoid FOMO all together and base decisions on justifiable information. However, you may feel compelled. Buying calls may be better than futures.

83) Since FOMO is such a powerful psychological factor in digital asset markets, and in a market that lacks large call over-writing, the demand for calls, creates +ve call skew – the FOMO call skew.

84) This FOMO call skew leads to IVs naturally rising as spot rallies and is the opposite of traditional markets under normal conditions.

86) In traditional markets, the options market can often impact the futures market; in BTC that is infrequent, but due to BTC market liquidity and inefficiencies it is worth noting pain points where it can influence both the options and futures markets.

87) Option expiries can have an impact over the period of the expiry calculation as options expire and risk needs to be mitigated. When these options are ITM, there can be large amounts of underlying exchanging hands. If one side dominates, can lead to a 1-2% move in spot.

88) More interesting for my commentary is forced or badly executed oversized option flows. Of significant note can be short-covering of options that were sold OTM, but due to rapid spot moves have moved deeply ITM.

89) If 1000x options need to be short-covered and they are now 70delta, that's 700BTC which in an unstable market can lead to substantial slippage in the underlying and also in the options market where liquidity is scarce. IV can in cases move 50% in brevity.

90) My commentary aspires to identify pain points, feel tremors in sentiment, recognise patterns and signatures, identify and explain large flows.

91) I do this with an accumulation of info from different sources, exchanges, connections, trading partners, intense overview or orderbooks, recall of entry points, making sense of exit points, + a small dose of experience.

92) Few will read to the end of this thread. A huge thank-you if you have taken the time.

93) If you feel there has been a benefit and wish to take mutual advantage of my affiliate links, under no obligation, thank-you. Here are the links:



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