capitalmind

OPINION

The Saga of the Jane Street Trading Scandal

In April 2024, a hedge fund called Jane Street sued a competitor called Millennium Partners, and what it revealed has prompted a year long SEBI investigation into its option trades in India. SEBI has a massive 4,800 crore fine on Jane Street's companies for what they say is index manipulation. Read on.

Deepak Shenoy • July 10, 2025

In April 2024, a hedge fund called Jane Street sued a competitor called Millennium Partners, for what it was was stealing its trade ideas. In court, Millennium mentioned it was about options trading in India. That got SEBI curious, and it launched an investigation. In an **order recently**, SEBI has more interesting details on what occurred, and has barred Jane Street from trading in India, additionally imposing a fine of over Rs. 4800 cr. to disgorge profits.

The core thesis is this:

- India is insanely huge in options trading - nearly 80% of the world's options contracts by daily turnover, trade in India
- Options trade in a much higher quantity and exposure than the underlying stocks
- Also, weekly options - which expire every week - attract a lot of retail speculative interest
- These options settle at the price of the index, and the index price is a combination of the closing price of a set of stocks that make up that index
- At settlement, index options are paid out in cash when have intrinsic value (i.e. in the money). This is different from the monthly expiry of stock options, where options are settled by stocks in the same quantity
- For indexes, given that the underlying stocks have relatively low volumes, it's possible to move the prices of stocks with a smaller amount of cash, while benefiting from an options position
- Jane Street figured this out, and used a very large amount of cash to move stock prices to benefit from their options positions (even though the stock positions lost money)
- In that process, says SEBI, there has been an unfair trading practice by manipulating prices

Let's explore this a little more. (Note: You may need water and essential minerals because this is LONNG. You have been warned. Thank you for your attention to this matter.)

Background: Options and Stocks?

Options are derivatives, where you have a asymmetric upside and downside. A 25,000 ("strike price") call on the Nifty index pays you money only if the Index is above 25,000 on its expiry date - if it goes below, you don't have any losses. The price you pay to buy such an option is a "premium", and a seller who takes the opposite side promises to pay you the difference if the Index is above 25,000 while pocketing the premium if it's below.

There are call options (which benefit if the index is above the strike price). And there are Put options, which benefit only if the index is below the strike price.

There are now weekly options, which expire on a Tuesday or a Thursday of every week. A call option may cost you Rs. 100, for a 25,000 strike price, on expiry day. This is now a hugely leveraged position - because you can lose all the Rs. 100 if the index is below 25,000 at the end. But if it goes to 25,300 - a mere 1% move from 25,000 - you can make Rs. 300. That is a 200% profit, when the index has only moved up 1%. (And of course a 100% loss if doesn't).

Also, because it's only Rs. 100, for a lot size of 75, I only have to pay Rs. 7,500 to participate in a contract whose size is over Rs. 15 lakh in exposure. This is very attractive to a retail speculator.

And because of that, the activity in the options market has gone berserk. There's a lot of speculation, prompting SEBI to even do a detailed study and reveal that over 93% of options traders lose money. And they lose it

mostly because they are taking a punt on the market, rather than using options for hedging or generating additional income on a stock portfolio, a concept that options is also helpful with.

The asymmetric win vs. loss creates one potential incentive: If I own a LOT more options contracts, can I use a smaller amount of money to move the "cash" market (i.e. where stocks are traded) to get the index to make my options profitable? The answer, as Jane Street found, is: yes.

Why do option prices move?

Now you can argue that an option will have a buyer and a seller. Why is their traded price somehow linked to the price of the index?

If you buy a call and "sell" a put option, you effectively have the same payoff as buying the index itself. This trade is also far more efficient in terms of transaction taxes (STT) compared to buying an index future, but there's another problem - sometimes there is no corresponding index future at all to buy. In weekly derivatives in India, there are no futures contracts, and no stock options. There are only index options.

In theory, the buy-call-sell-put position will net out a value that is the effective "future" position (since it is a synthetic position that expires on the weekly expiry date). The difference between the future and the underlying index is the "carry" - i.e. the higher cost of the future is explained by the fact that you put lesser money down (as margin) than the future, so the interest cost for the remaining days to expiry is effectively the higher cost of a future. Additionally, there is a part of the premium that is explained by "volatility" - that the index is expected to move a certain amount every day, so there's an implied volatility that reflects in the option premium. So if the index is at 25,000, the call option with strike price of 25,000 might trade at Rs. 100 - of which Rs. 10 may be the "carry" component (cost of money for the remaining time) and Rs. 90

is the implied volatility. Similarly, a call option of Strike 24,900 will probably trade at Rs. 180, because there is a 100 point difference that's already in the price (this is an 'in the money' option), and the remaining elements make up the extra Rs. 80. It's complicated math, but by and large the risk levels are different for in-the-money, at-the-money (strike price closest to the actual index value), and out-of-the-money (strike price higher than index for calls, lower for puts) options.

On the expiry day itself, there is no carry cost. Because the options expiry the very same day. So what you're going to get is just the implied volatility for the day itself.

As the index prices move - with the underlying stock prices of the constituents of the index - the option prices also move. At the end of the expiry day, the options are "settled". This means any call option with strike price that is lower than the index will pay out (index price minus strike price). The seller pays this price to the buyer, as part of the settlement.

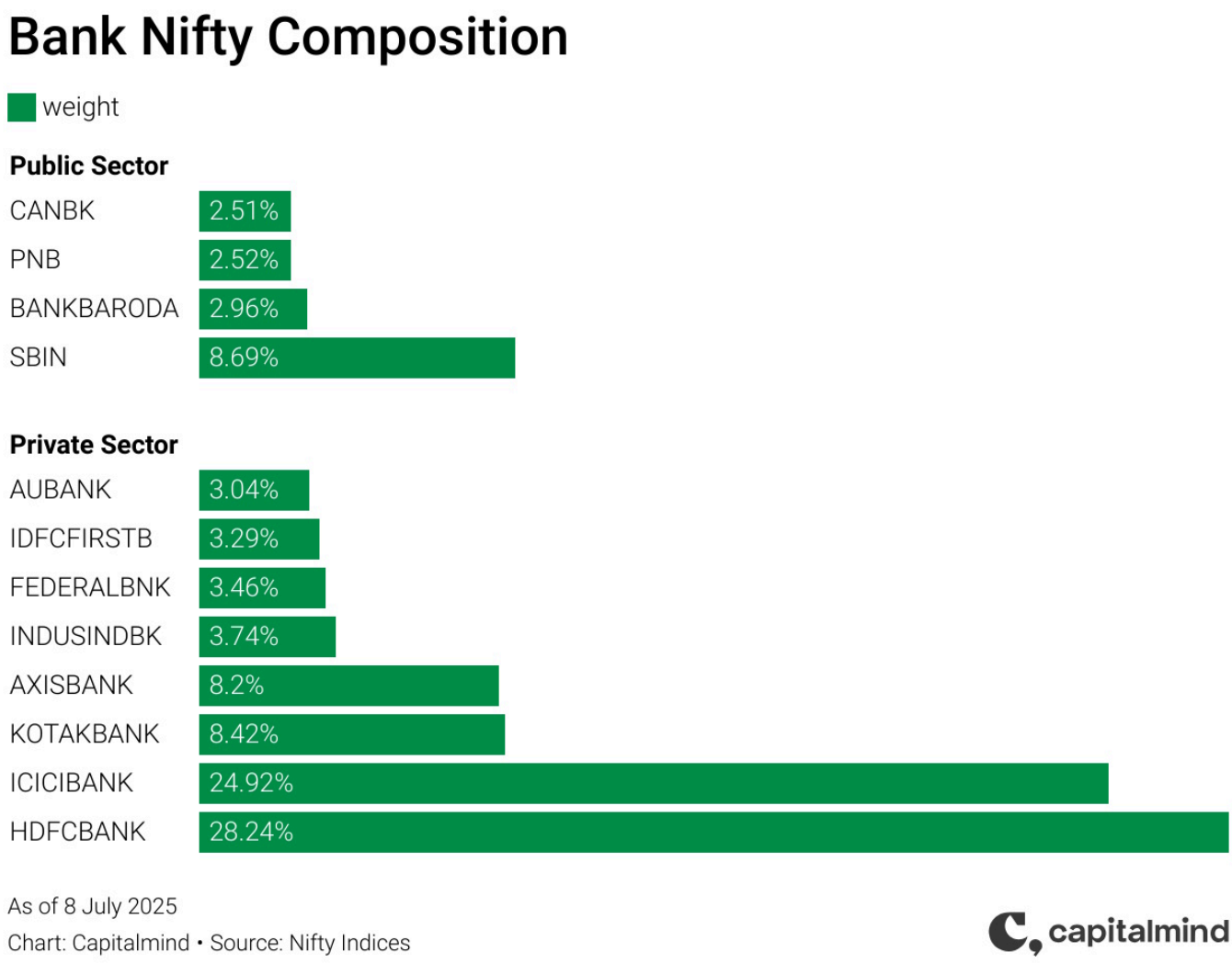
The Arbitrage Trade

There is the possibility that the future value (buy-call-sell-put) value is much higher than the index value on expiry day. This is a gap that will be bridged by the end of the day! That gap can be bridged by "arbitrage", which is basically where you take the opposite side (sell-call-buy-put) and on the other side, buy the index. How do you buy the index? You buy the underlying stocks that make up the index in the same weight as the index itself.

Here's where it becomes interesting.

The Concentration of an Index as a problem

The Bank Nifty - an index on which weekly options were traded - has just 12 stocks. Of this, the top 5 stocks make up 82%!



80% of the index is just five stocks!

The average traded volume per day of even the most liquid of them all, HDFCBANK, is around Rs. 2,000 cr. per day.

Meanwhile, the traded volume (notional) of just one weekly set of options of BANKNIFTY, on Jan 16, 2024 (one day prior to a day when SEBI has analyzed Jane Street's trades) expiring on the 17th, was 98,00,000 crores. Even just the premium paid (what is supposed to be a tiny amount to get that massive exposure) was 25,000 cr.

Put another way, there was some 12x more volume in just option premium paid, than there were volumes in the cash market of a stock that was about 25% of the index. Option premiums are a fraction of total exposure, being highly leveraged, so this is just mindblowing in terms of volume differentials.

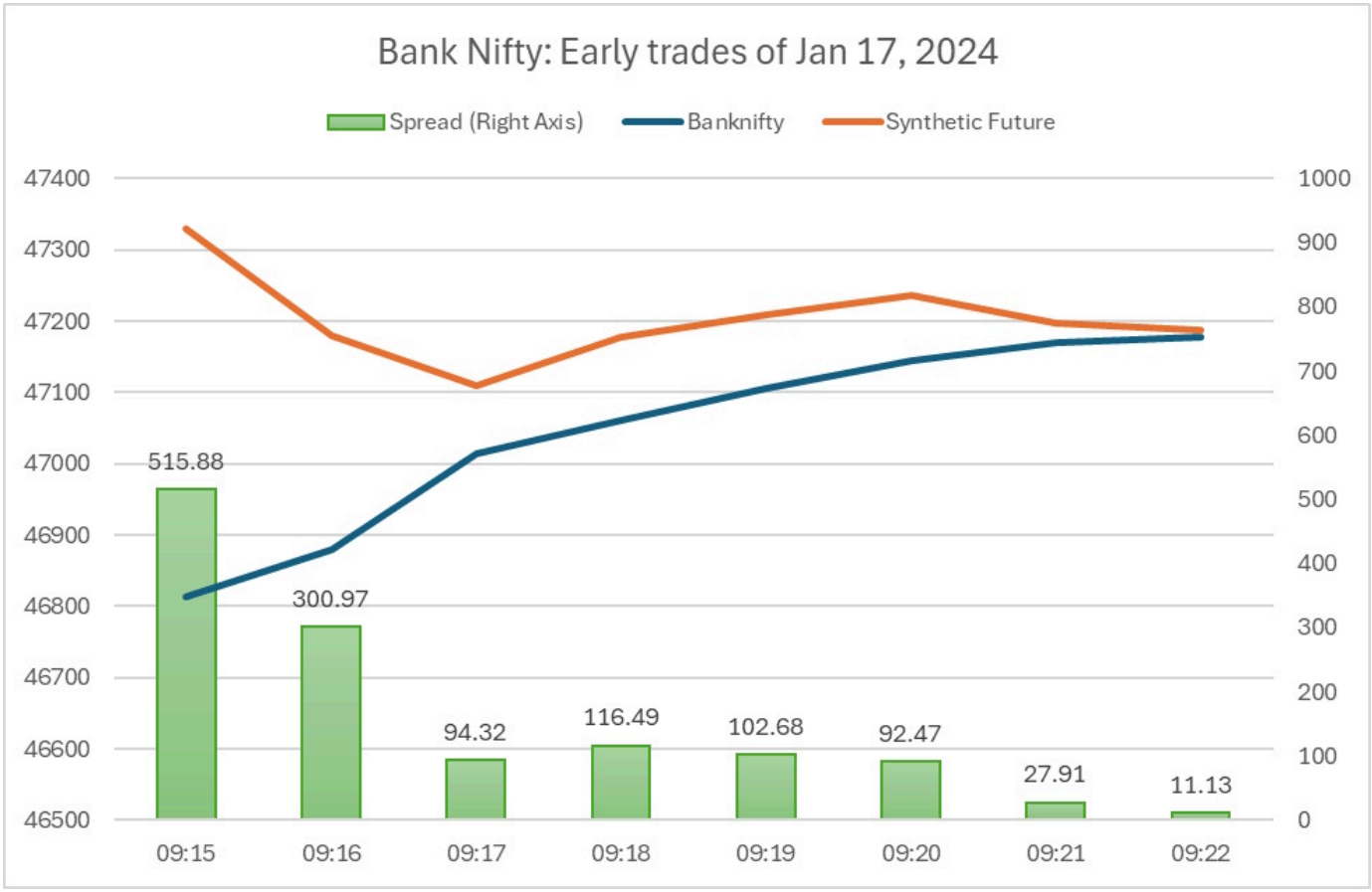
The game here is played by retail traders in a big way, who buy options for what seems to be one-day speculative positions. This is the craziness in the Indian markets - the love of incredibly leveraged positions that might help a hero-or-zero kind of trader.

So much gyan: But what did Jane Street do?

Yeah, I know, this is already long winded.

So, Jane Street has done a bunch of things. First, the "good" thing they did: An arbitrage trade in the early parts of the day. People are mad so they play options prices at pretty much any price they want. So in the beginning of 17th Jan 2024, an "expiry" day for the Bank Nifty. While the Bank Nifty opened nearly 2% down after weak HDFCBANK results, at around 46,800, the call and put options traded at a price that implied a much higher price. The 46,800 put and call were at 123.55 and 653.45 respectively - so buying the call and selling a put was effectively like paying around 530 rupees for it - which is an effective price of 46,800+530 = 47330 or so.

The way to bridge this gap, would be for someone to buy the BankNifty (buying individual stocks of the index in proportion) and selling this combination (sell-call-buy-put). That someone, on that day, was Jane Street, apparently. The trades bridged the gap by pushing up the index, and normalizing the put and call option prices. The spread narrowed in about 6 minutes.



(Synthetic future price based on 46,800 call and put. Data is from the SEBI order, page 26)

Sounds legit so far? Good job, you're thinking. Makes for efficient markets.

But you're missing a key point.

Jane Street bought stocks worth, uhem, 572 crores. That's a lot of money, but hold your beverage.

Jane Street sold options worth an effective short value of 8,751 crores. That's like 15x more.

(Nerd alert: In fact it's even more, but they consider "delta" which means for a contract at the money, is considered at 0.5 times the notional exposure).

Now you don't go short 15x your long position to do "arbitrage". That's like saying I bet 100 on red, and 1500 on black, and look, I've hedged my bets. Someone who was born one day before today might be the only one you can convince.

The problem started then, and then went berserk towards the end of the day. They built up to a total of 5,300 cr. in long stocks and stock futures in the early part of the day, and were short via a whopping 32,000 cr. effective exposure through options by lunch.

How does this ever end? They have a huge holding, only partially hedged, and if the market goes up like crazy Jane Street will have lost significant upper body clothing. What they did next, post 2:15, was the answer.

Jane Street sold their stocks and futures in the market, steadily, between 2:15 and 3:30. This volume was so large (JS was about 25% of the volume) that the stocks and the banknifty future both fell substantially. They covered only a portion of the option positions, and they ended up with "open" positions with an exposure of 24,000 cr. by the end of the day, with a meaningfully large net-short position on the Bank Nifty.

When index options expire, they are paid out in cash. That means if you're long a put option, you get paid the difference between the closing price of the index and your strike price. Given their own selling had tanked the index, Jane Street benefited at expiry from the lower price of the index and got paid in cash.

This wasn't all. On another Bank Nifty weekly expiry day (10 July 2024) Jane Street only traded in the last hour of the day, went heavily short using options, futures and even index-constituent stock sales, and booked a large profit at the end of the expiry day because the options/futures were marked to the closing price of the day. And then, after a warning in early

2025, they did this with the Nifty 50 index as well, on May 15, 2025! (Marked the close, this time by buying stocks/options/futures in the last hour)

Isn't this legal? Can you not be a big player in the market?

You simply cannot move a market to suit your positions. This was the core of the LIBOR scandal, where banks were "asked" in a pool what the daily LIBOR rate should be. And bank desks had interest rate positions in their book. So they would gang up and quote a higher price when it suited them, or a lower one when that benefited them. The collusion - to manipulate prices for their own book - was the scandal.

A very long time ago, SEBI had fined an Indian Company, Reliance Industries, for having done something like this: They had to sell a large quantity of shares of Reliance Petroleum Limited, and had engaged brokers to sell futures to hedge against their proposal to sell those shares. They sold most of the shares through the month, and the stock price fell some 25% during that time. Now when the last few shares were sold, it was the fag end of the expiry day and the price fell even more - and most of the short futures contracts were allowed to expire, creating a profit. (**SEBI order**) SEBI then decided that this was unfair, even when the hedge (futures short) of 9.92 cr. shares, was less than the quantity intended to be sold (22.5 cr shares). Just the fact that they did the trade over the month and sold less than 2 cr shares on the last day made SEBI place an order fining Reliance 447 cr. This fine has been upheld by SAT, and is now being appealed at the Supreme Court (so it hasn't yet been overruled).

If SEBI could have such a fine for a hedge that was less than the underlying quantity, then a situation where an arbitrage is claimed but there is actually 6x more exposure on one side compared to the other would obviously rankle the regulator.

Oh, and you can be a big player. But big players in stocks are restricted by position limits - there's an overall Market Wide Position Limit on stock futures (10% of free float) and then on every individual player (1% of free float).

Guess what the market wide position limit is on index options?

None.

There is a position limit on a single player, but JS used multiple companies. However, even that single player limit is only calculated at the END of every trading day. On an intra-day basis, anyone can even be 40% of the open interest on expiry day, and because the position expires, you don't violate any rules.

The Taxation Play

This isn't just a limit problem, it's also about taxation. We have something called STT, the Securities Transaction Tax. To buy a stock in delivery and sell it, you will pay 0.1% in each direction - costing 0.2% per trade. If you buy a future and sell it, you only pay STT on the sell leg, of 0.02%. (This is already just 1/10th compared to buying a stock)

Then if you trade a stock intraday (both buy and sell), you pay only 0.025% STT on the sell leg. Again, this is lower than buying a stock, substantially.

Finally, if you trade options, you pay 0.125% but only on the money you make beyond the strike price. So a 47000 call option that pays out Rs. 500 when the index closes at 47,500 will see a tax of 0.125% x 500 = Rs. 0.625 - which is peanuts compared to about Rs. 100 you would pay if it was a stock (and Rs. 10 if it was a future).

This taxation system rewards moving to options, compared to buying stocks. Given all of this, and the fact that STT has been offset by capital

gains taxes on stocks, the Finance Ministry should consider **charging a lower STT on stocks or in fact, remove it altogether**.

Next, there's also the tax arbitrage of foreign players. In the table below, you can see how much profit each of the JS entities made. Note that the first and last entities below are listed on Jane Street's FINRA page as entities in China and Singapore, making them FPIs (Foreign Portfolio Investors). The third entity, JSI investments Pvt. Ltd., is an Indian entity (owned by Jane Street)

Table 4

Profit/ (Loss) Summary (in ₹ crore)							
Name	PAN	Total profit	Total profit in 'Index Options'	Total profit in 'Index Futures'	Total profit in 'Stock Options'	Total profit in 'Stock Futures'	Total profit in 'Stocks' i.e. cash segment
Jane Street Asia Trading Limited	AAECJ7368M	6,929.56	7,650.34	(85.62)	34.82	(668.87)	(1.12)
JSI2 Investments Private Limited	AAGCJ5786R	(168.67)	(168.67)	-	-	-	-
JSI Investments Private Limited	AAFCJ0285L	4,104.61	4,392.03	0.00	(0.37)	0.00	(287.05)
Jane Street Singapore Pte Limited	AAGCJ1682G	25,636.62	31,415.63	(105.19)	865.54	(6,539.36)	0.00
Total		**36,502.12**	**43,289.33**	**(190.81)**	**899.99**	**(7,208.23)**	**(288.17)**

Source: NSE

Note that most of the profit in Index options are in the foreign entities. The losses in "cash segment" are in the Indian entity.

What is wrong with FPIs? Well, by Indian tax rules, FPI trades in futures and options count under "Capital Gains" for taxation. That means they are taxed at 20% (short term) and 12.5% (long term). This is lower than if it

were in an Indian entity (where it's effectively 25% in a private limited company, or if it was you and me, we would pay as much as 39%. Because it's business income)

The taxation difference also therefore allows foreign players to get an advantage in playing the options game compared to domestic players. It would help if FinMin just made it capital gains even for domestic investors.

The Indian entity probably does intraday buy and sell of shares. Why? Because FPIs cannot.

But also, no domestic institution (mutual funds, PMS, AIF or insurers) can do intraday trading. Only a domestic corporate or individual can. This is probably why they had most of their losses in stock reside in the Indian entity.

Why aren't there counter players in India to offset this?

If someone big had come in, with say 10,000 crores of cash market buying in the last hour of trading, Jane Street would struggle and lose tons of money. So why don't we have them?

- All the above trades are insanely leveraged. Indian institutions can't do leverage (AIFs, PMS, Mutual funds etc are limited)
- Domestic prop firms are currently small - they do well, but they are a fraction of Jane Street's size. India protects multi-brand retail for a similar reason - that foreign players have too much capital; but once domestic players have enough capital, they can beat them.
- This is not a new trade - Bank Nifty Arbitrage (not the manipulation, but the legal arb) has worked well for most of the last decade. (I've even tested this a decade ago)

- Taxation is adverse on futures and options, for prop firms in India
- If you own an Indian private limited co, which has only 25% tax, such trades can be called "financial income". In RBI rules, any company with more than 50% income from financial markets and 50% assets in financial securities have to register as an NBFC. (We need to fix this)

I have no doubt that once people know the basics now, they will come in and try and beat the JS types. So it's perhaps a little bit of a lack of knowledge also.

How can we fix this?

India shouldn't really have option markets the size of Africa, when the cash markets are the size of a 3BHK in Mumbai (translation: 500 sq. ft.). And any single player shouldn't dominate them.

SEBI could create **intra-day option position limits** (currently 15% of the outstanding OI, only at end of day) on individual holders of index positions, and have a market wide position limit on index futures that is perhaps a reasonable multiple of the market-wide limits on the underlying individual stocks. (Say 2x or 3x). This will limit the insanity of index options and futures positions, as new contracts cannot be created once the limit is hit.

And maybe, **allow weekly options to only convert into futures contracts**. That means in-the-money call options will expire and give the buyer a "long futures" contract (which expires at the end of the money). The seller gets a "short futures" contract. And the opposite for an in-the-money put option. How will this help?

The idea is that if you let an option expire in the money, it currently gives you cash - the difference between the strike price and the closing price of the stock. So a 24,500 call option on the Nifty, where the index value closes at 25,000, gives you Rs. 500 cash. This incentivizes you to push the index

up higher by buying the underlying stocks, so that your call option gives you the money. The disproportionate gain by a larger number of options contracts versus the cash it takes you to move a stock means just this: You will gain a lot more from the option move, than you might otherwise lose in the buying of the stocks (since they will fall later)

Instead, you would get a Nifty future that you would have to close the next day, and if you are disproportionate in size, you will then end up losing a lot of money selling that future into the market. And that will negate any of the "mark the close" issues.

You only need this for the weekly options. For the monthly options, since stock futures also expire on the same day (as do index futures), the manipulation fears are lesser. There are more participants overall.

The downside of both measures is: it will kill the weekly expiry day trading madness. Because if you get an index future on expiry - where typical margins are Rs. 1 to Rs. 1.5 lakh - the weekly options buyers, who typically don't have that kind of money, will simply not have enough cash to trade. As an indicator, currently option buyers on expiry day might put as little as Rs. 500 to play the game for a day, which at the end might expire with a profit or a loss. These people do not have Rs 1 lakh to place as margin if they were lucky enough to profit!

Index options are the favourite of most brokers and exchanges but we should absolutely avoid systemic risk or manipulation. At the size they are right now compared to cash markets, we face the issue that people who have taxation advantages in derivatives and have enough capital, can easily override the cash market. That's the very market on which the derivatives are based on!

So in short, we should:

- Consider intraday-position limits on individual players in index options

- Have overall market wide position limits on index options linked to the sum of market wide position limits of the underlying stocks in the index
- Ask FinMin to reduce or remove STT on stock purchases and sales
- Have an similar tax position for Futures and Options for domestic and foreign players
- Potentially consider weekly index options to expire into monthly index futures contracts instead of cash.
- RBI's 50-50 NBFC rule should be removed for futures, options, and listed securities.

This has been a long post. I'll go get some water. If you've stayed this long, congratulations! If you skipped everything to come here, I like your style. If you're outraged, don't be. It's a problem, we can solve it, such things happen. There will be fines, court cases and drama. This is not the beginning, nor the end of big-money manipulation.

Derivatives

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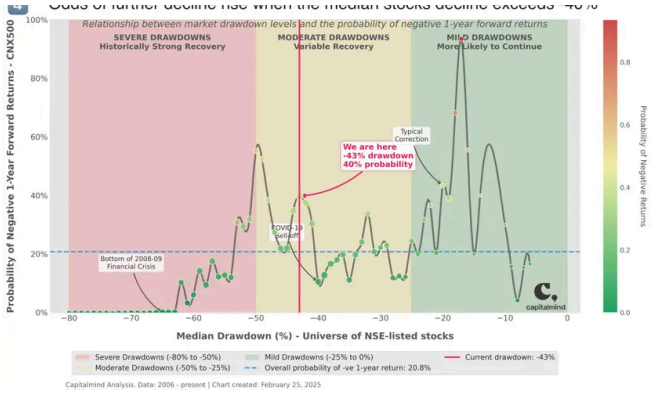

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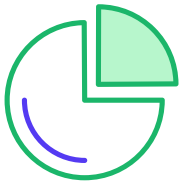

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