

**SECURITIES AND EXCHANGE BOARD OF INDIA****INTERIM ORDER****UNDER SECTIONS 11(1), 11(4), 11B(1) and 11D OF THE SECURITIES AND  
EXCHANGE BOARD OF INDIA ACT, 1992****In respect of:**

<b>S. No.</b>	<b>Name of the Entity</b>	<b>PAN</b>
1.	JSI Investments Private Ltd.	AAFCJ0285L
2.	JSI2 Investments Private Ltd.	AAGCJ5786R
3.	Jane Street Singapore Pte. Ltd.	AAGCJ1682G
4.	Jane Street Asia Trading Ltd.	AAECJ7368M

*(The aforesaid entities are hereinafter collectively referred to as “Entities/ Jane Street Group/ JS Group”)*

**In the matter of Index manipulation by Jane Street Group****TABLE OF CONTENTS**

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## A. BACKGROUND:

1. Based on media reports titled ‘Jane Street-Millennium Suit: ‘Secret’ Strategy Concerns India, Hearing Reveals’ and ‘Ex-Jane Street trader pillories claims he stole trade secrets’, published during April 2024 wherein it was inter-alia mentioned that Jane Street and its associated entities alleged unauthorised use of their proprietary trading strategies in Indian options markets, SEBI initiated preliminary examination into trading activity of Jane Street and associated entities (collectively referred to as “Jane Street Group” or “JS group”) to ascertain any market abuse. The chronology of some of the subsequent events is given in the following Table.

**Table 1**

Date	Event
April 2024	SEBI carried out an analysis based on media reports referencing a legal dispute involving Jane Street Group for alleged unauthorised use of their proprietary trading strategies in Indian markets.
July 23, 2024	NSE was asked to examine the trading activity of the JS Group to ascertain if there was any market abuse involved.
August 2024	SEBI interacted with JS Group on August 20, 2024 and JS Group provided its written submission dated August 30, 2024 to SEBI explaining their trades.
October 1, 2024	Separately, SEBI issued a circular announcing a series of policy steps in order to address what was seen as overtrading in index options on expiry day.
November 13, 2024	NSE examination report on JS Group’s trading activity was submitted
December 2024	SEBI observed what appeared to be abnormally high or low volatility on weekly index options expiry days. Further, SEBI noted that there were certain entities consistently running what appeared to be by

Date	Event
	<p>far the largest risks in 'cash equivalent' terms in F&amp;O particularly on expiry days.</p> <p>SEBI constituted a team of officials to further examine the issue in a more detailed and comprehensive manner.</p>
February 04, 2025	The team of officials noted that prima facie, JS Group appeared to be engaging in activities in violation of SEBI PFUTP regulations.
February 6, 2025	While the detailed examination was ongoing, with a view to ensure that JS Group desisted from undertaking trading patterns that were <i>prima facie</i> fraudulent and manipulative, on SEBI's instructions, NSE as a first line regulator issued a <b>caution letter</b> to Jane Street Singapore Pte Limited and its related entity, JSI Investments Pvt Ltd. advising them to refrain from taking large (cash-equivalent) positions and to refrain from undertaking certain trading patterns.
February 2025	JS Group sent their replies to the caution letter on February 6 <sup>th</sup> and 21 <sup>st</sup> , 2025.
May 15, 2025	In disregard of the caution letter from the Exchange issued in February 2025, and JS Group's own commitments to the Exchange, Jane Street Group was observed to continue to run very large 'cash-equivalent' positions in index options.

## B. ENTITIES INVOLVED IN THE MATTER

2. **Jane Street Group LLC** is a global proprietary trading firm in the financial services industry. Jane Street employs more than 2,600 people in five offices across the United States, Europe, and Asia and trades in 45 countries.<sup>1</sup> Jane Street Group LLC was established in the year 2000. Services are provided in the U.S. by Jane Street Capital, LLC and Jane Street Execution Services, LLC, each of which is a SEC-registered broker dealer and member of Financial Industry Regulatory Authority, USA ("FINRA"). Regulated activities are undertaken in Europe by Jane Street Financial Limited, an investment firm authorized and regulated by the U.K. Financial Conduct Authority, and Jane Street Netherlands B.V., an investment firm authorized and regulated by the Netherlands Authority for the Financial Markets (*Autoriteit Financiële Markten*), and in Hong Kong by Jane Street Hong Kong

<sup>1</sup> See complaint filed by Jane Street Group LLC against Millenium Management LLC before the United States District Court Southern District of New York available at [https://www.sewkis.com/wp-content/uploads/Jane-Street\\_amended-complaint.pdf](https://www.sewkis.com/wp-content/uploads/Jane-Street_amended-complaint.pdf)

Limited, a regulated entity under the Hong Kong Securities and Futures Commission. Each of these entities is a wholly owned subsidiary of Jane Street Group, LLC.<sup>2</sup>

3. Upon examination of the audited financial statements of **JSI Investments Private Limited (Entity No. 1 in this Order)**, and the related party disclosures contained therein, it was observed that Jane Street Europe Limited and Jane Street Group, LLC (supra) were disclosed as the holding company and ultimate holding company of JSI Investments Private Limited, respectively. As per the Memorandum of Association of **JSI2 Investments Private Ltd. (Entity No. 2 in this Order)**, it is wholly owned by JSI Investments Private Limited. Additionally, **Jane Street Singapore Pte. Limited (Entity No. 3 in this Order)** was also described in the aforesaid financial statements as a fellow subsidiary of JSI Investments Private Limited, indicating their common control under the Jane Street Group umbrella, along with other affiliated entities. In a 'BrokerCheck Report' of Jane Street Capital LLC (*also referred to in the previous paragraph*), available on the website of FINRA based on filings by the said broker it discloses itself as a subsidiary of Jane Street Group LLC. Importantly, it also discloses **Jane Street Asia Trading Ltd. (Entity No. 4 in this Order)** as being under common control with the LLC and that it is an indirectly wholly owned subsidiary of Jane Street Group LLC.<sup>3</sup>
4. In the submission filed by Jane Street Group on August 30<sup>th</sup>, 2024 in response to the preliminary enquiries made by SEBI, the Group made submissions on behalf of the Group's companies trading in the Indian market. These submissions were with reference to trades done by all three Entities to this Order.
5. The Jane Street Group LLC's associate entities operating in India were initially identified based on the domain (i.e. [janestreet.com](https://www.janestreet.com) ) provided at the time of opening of trading accounts. This domain association adds to the aforesaid conclusion that all the Entities form part of the global operations of the Jane Street Group.

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<sup>2</sup> <https://www.janestreet.com/who-we-are/>

<sup>3</sup> [https://files.brokercheck.finra.org/firm/firm\\_103782.pdf](https://files.brokercheck.finra.org/firm/firm_103782.pdf)

6. Considering the above, the activities and trades of the Entities have been viewed as group and not as individual entities, for the purpose of this Order.

## **C. EXPLAINER ON CASH AND F&O MARKETS AND THEIR INTERPLAY**

### **I. Prices of derivatives and their underlying stocks are interrelated**

7. Derivatives are instruments whose value is derived from underlying reference securities. There is a strong interrelationship between prices of derivative instruments and the prices of their underlying stocks or indices. **Annexure 1** of this Order provides a basic primer around indices, and around Futures and Options on single stocks and indices such as BANKNIFTY. The following illustrations explain how some of these interrelationships come about:

**7.1.** If the price of a stock futures or index futures contract were to be significantly higher than the underlying stock or index price, arbitrageurs can sell the futures at a high price, buy the stock or index components in cash markets at a low price, and lock into an assured profit on expiry of the futures contract. Similarly, if the price of a stock futures or index futures contract were to be significantly lower than the underlying stock or index price, an opposite side arbitrage opportunity would arise. As a result of these arbitrage guardrails, the price of a stock futures or index futures contract generally moves in tandem with the price of the underlying stock or index.

**7.2.** Stock prices and stock option prices are also bound by arbitrages.

**7.2.1.** The payoff from buying a call option and selling a put option on a stock or index simultaneously at the same strike price is equivalent to buying a forward contract on that stock or index at that strike price. This is the principle of “put-call-parity” in options that connects the prices of options with the underlying spot and forward prices. Deviations from this parity would lead to arbitrage opportunities for market participants.

**7.2.2.** Similarly, if arbitrageurs could buy In-The-Money (ITM calls) of a stock or index such that strike price of the call option + premium of the option is less than the current market price of the stock or index, they could buy such ITM calls, sell stocks in the cash market and lock into a profit.

**7.2.2.1.** As an example, if a stock (or index) is at INR 100, and the cost of an ITM call option at INR 90 (i.e., the cost of acquiring the right to buy the stock or index at INR 90) is just INR 6, then a participant could purchase this option, immediately sell the stock (or index) at 100, and lock into an assured profit of INR 4 at maturity.

**7.2.3.** If arbitrageurs could buy ITM puts such that strike less the premium of the option is greater than the current market price of the stock or index, they would buy such ITM puts, buy stocks in the cash market, and lock into a profit.

**7.2.3.1.** As an example, if a stock (or index) is at INR 100, and the cost of an ITM put option at INR 110 (i.e., the cost of acquiring the right to sell the stock or index at INR 110) is just INR 6, then a participant could purchase the put option, immediately buy the stock (or index) at 100, and lock into an assured profit of INR 4 at maturity.

**7.2.4.** There are transaction costs around arbitrage, such as brokerage, STT, exchange fees, and cost of margin and funding, that can introduce some inefficiencies. Nevertheless, arbitrage avenues provide tight guardrails linking the prices of F&O derivatives and the underlying cash markets. The knowledge that such arbitrage-driven guardrails exist itself ensures a strong and desired nexus between cash and F&O markets.

**II. On expiry day, volumes and participation in index options is far higher than in the underlying constituent stocks and futures**

**8.** It is pertinent to note the difference in the level of liquidity and participation across cash markets and F&O. On weekly index options expiry day, the comparable cash equivalent traded volumes in index options markets is several times the combined cash equivalent volumes traded in the associated futures and cash markets. For example, on 17 Jan 2024, an expiry day in BANKNIFTY index options where prima

facie manipulative activity of Jane Street Group was observed, the following is noted:

**Table 2**

Cash market total traded turnover in the 12 BANKNIFTY stock constituents (A)	INR 29,225 crores
Futures market total traded turnover in the 12 BANKNIFTY stock constituents (B)	INR 43,589 crores
Futures market traded turnover in BANKNIFTY index (C)	INR 32,607 crores
BANKNIFTY options cash equivalent (or Futures equivalent or delta equivalent) traded turnover (D)	INR 1,03,17,127 crores
Relative size of BANKNIFTY options market to cash market of its 12 constituent stocks, based on cash equivalent traded turnover (=D/A)	353 times
Relative size of BANKNIFTY options market to the total of cash and futures market of its 12 constituent stocks, and BANKNIFTY index futures, based on cash equivalent traded turnover =D/(A+B+C)	98 times

9. As a corollary to the above, on weekly index option expiry day, many more entities and individuals trade in index options than do entities and individuals in the associated cash and futures markets. In other words, given the interrelationship between prices of derivative instruments and the prices of their underlying stocks or indices, many that trade in index options look for signals in the underlying index (determined by the smaller volumes and less number of participants in the underlying cash and futures markets), without themselves participating in these markets. For example, on 17 Jan 2024, the following was observed.

**Table 3**

No. of unique entities that traded in the cash market of all of the top three BANKNIFTY constituent stocks	4,675
No. of unique entities that traded in the futures contracts of BANKNIFTY index	26,593

No. of unique entities that traded in the options contracts of BANKNIFTY index	16,15,011
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10. A core reason for this phenomenon is likely that market participants enjoy enormous 'leverage' from options. As an example, to take delivery of a stock priced at INR 100 in the cash market, one needs to put up cash to the extent of INR 100. To buy a futures contract on the same underlying stock, one needs to put up adequate margin, say of INR 20. To that extent, there is an effective leverage of five times available to the participant, in taking up the same cash-equivalent exposure via futures markets, as opposed to via cash markets. Of course, the leverage also implies higher risk for the participant. In the options market, on the other hand, if one were to buy a call option at a strike price of INR 100 (At-The-Money or ATM strike) on two shares of the same underlying stock, with just one day to expiry and assuming 25% implied volatility, the option may only cost around INR 1. The underlying cash-equivalent economic exposure of this long-call ATM option position on two shares, at the time of trading, would be equivalent to being long one underlying share (the 'cash equivalent' or 'future equivalent' or 'delta equivalent' risk). This position has been put up with an outlay of just INR 1, representing a 100-times leverage over taking the same position directly in the cash market, or a 20-times leverage over taking the same position via futures markets.
11. This leveraged payoff from buying options close to expiry, where one can take on enormous exposure in relation to the size of the capital outlay, with a known and limited downside (to the extent of option premium paid) but with the prospects of high gains if the prices were to move sharply and favourably, appears to attract traders who only trade in index options, and not in the underlying cash markets.

### **III. Influencing underlying stock and index to profit from index options**

12. Given the above, on weekly index option expiry day, by aggressively influencing the underlying cash and futures market with significant volumes (relative to those markets), a group of entities acting in concert with adequate funds and capital at



their disposal, can influence and manipulate the index levels. This in turn can allow them to put on significantly larger and profitable positions in the highly liquid index options market by misleading and enticing large number of smaller individual traders. It could also be used to engineer the closing of the market on expiry day in a manner that benefits enormous index option positions that they may be running to expiry. Such activities would prima facie be in violation of PFUTP regulations.

#### **D. METHODOLOGY FOR ANALYSIS**

**13.** For the reasons earlier recorded in this Order, for the purpose of the examination, dealings in securities by the Entities have been viewed as a collective group ('JS Group') and not as individual entities. As noted earlier, SEBI had observed that the JS Group was consistently running what appeared to be by far the largest risks in 'cash equivalent' terms in F&O particularly on index option expiry days. While trading patterns constitute the subject matter of examination to assess illegality (if any), profits/ losses made can be a useful alert to prepare a sample set of days and contracts for deeper analysis of the underlying risks and trading patterns. However, it must be emphasised that trading profits by themselves are certainly not an indication of any illegality. The scale of profits made do not form the basis of the examination's ultimate conclusions/ findings – only the underlying trading patterns observed do.

#### **14. Methodology for Identification of impugned trading days**

##### **Step 1: Profit-Loss mapping across all segments**

**14.1.** The aggregate profit/loss made by the Jane Street Group during the examination period i.e. from January 1, 2023 to March 31, 2025, across all product categories and segments of NSE are summarised in the following Table:

**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
<b>Total</b>		<b>36,502.12</b>	<b>43,289.33</b>	<b>(190.81)</b>	<b>899.99</b>	<b>(7,208.23)</b>	<b>(288.17)</b>

Source: NSE

**14.2.** The data in the above table reveals that profits from Index Options alone accounted for over INR 43,289.33 Crore whereas losses in stock futures, index futures and cash cumulatively amounts to INR 7,687.21 crore.

### **Step 2: Disaggregated Analysis of Index Options Instruments**

**14.3.** Within the "Index Options" category, the data for the Examination Period was further split across four indices: BANKNIFTY, NIFTY, FINNIFTY, and MIDCPNIFTY. It was found that BANKNIFTY options alone contributed INR 17,319.26 Cr, amounting to 40% of the total Index Options profits.

### **Step 3: Day-Wise profit calculation vis-à-vis BANKNIFTY options and further filtering process**

**14.4.** To identify concentrated profitability periods, a daily profit computation for BANKNIFTY options trades was conducted for the examination period. Thereafter, all the trading days were ranked by profits in BANKNIFTY options

contracts. From this list, the top 30 most profitable days were shortlisted for analysis.

**14.5.** From the top 30 profit-ranked days, 19 number of derivative expiry days (*weekly or monthly*) were specifically listed.<sup>4</sup>

**14.6.** Out of the aforementioned 19 number of days, a granular intraday (at minute level) analysis of trading activity was carried out for the said days<sup>5</sup> and accordingly **17 days** were shortlisted for detailed analysis. Additionally, one day from the preliminary review phase was also selected for in-depth examination. Accordingly, a total of 18 trading days during the Examination Period were analysed.

#### **Step 4: Assessing volume and/ or price manipulation in BANKNIFTY index and its constituents**

**14.7.** The most profitable trading day January 17, 2024 (with profit to the tune of INR 734.93 crore) was selected for detailed scrutiny. In this context, a comprehensive examination of all trades executed by the Group on this day across cash, futures, and options segments was undertaken to understand the nature, timing, and potential interlinkages of such activity. The detailed analysis of the trades of this day revealed the existence of a strategy ("*Intraday Index Manipulation*" Strategy) which appears to have been similarly deployed by the JS Group in 15 days out of 18 days covered in this Order. A different strategy ("*Extended Marking the Close*" Strategy) was observed on the other 3 days. The latter strategy was also seen to have been deployed on 3 other days post the examination period in NIFTY index options, during May 2025.

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<sup>4</sup> It was observed that Jane Street Group's activity was heavily concentrated around expiry days, both in terms of GTV and options positioning. On such days, the index closing value has direct bearing on options payoff, thereby creating both the motive and the opportunity for influencing settlement outcomes. This filter ensured analytical focus on those days where the potential for derivative manipulation was structurally the highest.

<sup>5</sup> The review involved minute-wise data parsing and graphical visualization of multiple variables to identify potential instances of market manipulation or sentiment distortion. The graphs were then also analysed to assess whether the trading behaviour was manipulative in nature.

## E. MANIPULATIVE STRATEGIES

### 15. “Intra-day Index Manipulation” Strategy – Analysis of trading on January 17, 2024 as a sample

15.1. January 17, 2024 saw a sharp drop in BANKNIFTY index at open, from previous close of 48,125.10 to an open of 46,573.95. Media reports claimed that this fall may be attributed to the market’s apparent disappointment with the results announced by HDFC Bank after market close on January 16, 2024.

**Table 5** below summarises the broad movement in BANKNIFTY index on the day.

**Table 5 - Data pertaining to BANKNIFTY Index**

Previous Day Close (Jan 16, 2024)	48,125.10
Open (Jan 17, 2024)	46,573.95
High (Jan 17, 2024)	47,212.75
Low (Jan 17, 2024)	45,979.60
Close (Jan 17, 2024)	46,064.45

15.2. The JS Group’s trading pattern on January 17, 2024 constituting “**Intra-day Index Manipulation**” is summarised below:

**Table 6 - Tabular Flowchart – Intraday Strategy Executed by Jane Street Group**

Step	Time Window	Action	Impact on Market	Impact on Index Options
1	Patch I: 09:15 AM – 11:46:59 AM	In an otherwise falling market, JS Group net purchases INR 4,370.03 crores of BANKNIFTY constituents in cash and futures markets, which are significant quantities in relation to the trading volumes in these markets. The purchases are aggressive, in a manner that tends to push up prices.	This action supports or pushes up the prices of BANKNIFTY constituents and hence the index itself.	As BANKNIFTY Index is supported/ rises from the lows, Put options on the index become cheaper, while Call options become expensive.
		Simultaneously, at a time when participants in index options		JS Group builds large short

Step	Time Window	Action	Impact on Market	Impact on Index Options
		markets are misled by the above support for BANKNIFTY, JS Group builds effectively INR 32,114.96 crores of bearish positions in the much more liquid BANKNIFTY index options by buying cheap Put options and selling expensive Call options.		BANKNIFTY positions, 7.3 times the size of the long cash/ futures positions
2	Patch II: 11:49 AM – 15:30 PM	JS Group reverses and sells practically all of the net cash/ futures positions in BANKNIFTY constituent stocks that were bought in Patch I. The sizes are large, compared to market trading volumes in these segments. The sales are aggressive, in a manner that pushes down prices in the component stocks and hence index. JS Group books losses in intraday cash/ futures market trading.	Creates downward pressure in BANKNIFTY component stocks and hence index	Put options now rise in value, Call options drop in value – reversing the artificial moves in the first patch
		JS Group now profits from the much larger BANKNIFTY index options positions (long puts and short calls) including those built during Patch I. It unwinds some of the positions, and allows the others to expire at a profit.		Profits in index options more than compensate for the JS Group's losses in intraday cash / futures trading,

The patches are now examined in detail below.

**(I) Patch I: Aggressive cash and futures buying of BANKNIFTY components**

**15.3.** During the underlying buying patch (Patch I, between 09:15:00 to 11:46:59), Jane Street Group aggressively accumulated significant long positions of INR 4,370.03 crores in BANKNIFTY constituents across both the cash and stock futures markets. They were the single largest net buyer across BANKNIFTY components during this patch, by far.

**15.4.** JS Group purchases in the BANKNIFTY constituent stocks (cash market) during Patch I are detailed below:

**Table 7**

Scrip <sup>6</sup>	Buy start time	Buy end time	Open	High	Low	Close	No. of buy trades - JS	Buy trade quantity - JS	Buy side TV <sup>7</sup> in INR Crs. – JS (A)	No. of buy trades – Market-wide	Buy trade quantity – Market-wide	Buy side TV in INR Crs. – Market-wide (B)	JS's buy traded value relative to market-wide traded value (in %) (A/B)
HDFCBANK	09:15:43	11:06:05	1586.2	1596.8	1570.1	1574.6	22,283	19,99,785	316.41	7,50,562	3,47,95,972	5,506.76	5.75%
ICICIBANK	09:15:45	11:20:15	994.2	1007.8	985.05	987.75	34,673	44,62,505	445.03	2,63,502	1,91,31,083	1,907.26	23.33%
AXISBANK	09:15:43	11:20:12	1094.1	1115	1091.9	1100.3	34,343	25,10,272	277.13	1,93,128	1,04,51,176	1,153.12	24.03%
SBIN	09:15:45	11:20:11	627.1	636.8	626.5	628.7	27,894	34,45,606	217.67	1,75,825	1,36,62,409	862.53	25.24%
KOTAKBANK	09:15:43	11:20:09	1819.15	1834.7	1795	1799.9	35,815	10,48,868	190.26	1,44,328	45,20,879	819.78	23.21%
INDUSINDBK	09:15:43	11:19:54	1647.15	1677.1	1645.3	1653.4	21,172	7,20,721	119.66	92,866	28,84,264	478.48	25.01%
FEDERALBNK	09:15:47	11:07:41	146.75	149.5	146.25	147	16,363	39,16,350	57.94	1,22,840	1,81,73,024	268.48	21.58%
BANKBARODA	09:15:47	11:08:00	227.45	232.35	227.25	230.55	13,767	31,54,397	72.64	71,584	1,28,09,188	294.70	24.65%
IDFCFIRSTB	09:15:50	11:07:40	87.05	89.65	86.8	87.2	5,515	67,54,912	59.56	82,395	4,27,89,694	376.65	15.81%
AUBANK	09:15:45	11:20:08	763.55	783.95	747.85	758.2	18,274	5,73,988	43.76	79,577	23,03,461	175.45	24.94%
PNB	09:15:57	11:07:28	97	98.9	96.8	97.95	4,940	52,38,342	51.53	74,739	3,17,55,556	311.79	16.53%

It is pertinent to note that during this Patch I, JS only undertook purchase trades in these constituent stocks (cash markets).

**15.5.** JS Group purchases in the BANKNIFTY constituent stock futures during Patch I are detailed below:

<sup>6</sup> All the data points (for respective scrips) fall between JS's buy trade start time and buy trade end time

<sup>7</sup> Traded Value

**Table 8**

Scrip	Expiry	Buy start time	Buy end time	Open	High	Low	Close	No. of buy trades - JS	Buy trade quantity - JS	Buy side TV in INR Crs. – JS (A)	No. of buy trades – Market-wide	Buy trade quantity – Market-wide	Buy side TV in INR Crs. – Market-wide (B)	JS's traded value relative to market-wide traded value (in %) (A/B)
HDFCBANK	25-Jan-24	09:57:43	09:58:05	1587.7	1589.1	1587.1	1589	52	42,350	6.73	152	1,11,650	17.73	37.93%
ICICIBANK	25-Jan-24	09:15:05	11:46:50	990	1008.7	982	983.2	6,751	64,82,000	646.09	33,274	2,78,70,500	2,777.55	23.26%
AXISBANK	25-Jan-24	09:15:08	11:46:55	1097.8	1115.7	1094.2	1094.8	4,051	31,53,125	348.26	19,070	1,35,62,500	1,496.74	23.27%
SBIN	25-Jan-24	09:15:07	11:46:18	630.6	637.2	626.7	628.85	3,116	57,97,500	366.75	15,173	2,64,58,500	1,672.65	21.93%
KOTAKBANK	25-Jan-24	09:15:05	11:46:59	1820	1837.5	1789.3	1791.9	3,685	19,20,400	349.02	16,879	79,68,800	1,448.38	24.10%
INDUSINDBK	25-Jan-24	09:15:08	11:46:55	1649.35	1678	1644.3	1650.2	2,206	12,51,000	208.02	9,629	52,62,000	874.01	23.80%
FEDERALBNK	25-Jan-24	09:15:05	11:46:28	146.85	149.7	145.65	146.35	1,215	71,35,000	105.51	6,476	3,61,90,000	534.59	19.74%
BANKBARODA	25-Jan-24	09:15:06	11:46:47	228.6	233.95	226.95	232.15	1,798	61,60,050	142.49	7,892	2,68,25,175	619.89	22.99%
IDFCFIRSTB	25-Jan-24	09:15:05	11:46:50	87.3	89.8	86.75	86.9	1,293	1,29,45,000	113.95	8,667	7,84,05,000	689.96	16.52%
AUBANK	25-Jan-24	09:15:16	11:46:56	758	777	747	751.8	1,196	15,85,000	120.52	5,647	67,66,000	513.98	23.45%
PNB	25-Jan-24	09:15:06	11:41:32	96.85	100.25	96.3	99.3	977	1,12,72,000	111.13	6,560	6,56,16,000	647.31	17.17%



**15.6.** Jane Street Group aggressively bought shares and futures of all BANKNIFTY constituents (except BANDHANBANK) during this patch. Their net Traded Value (TV) in the cash segment was INR 1,851.57 Cr and in the futures segment was INR 2,518.46 Cr. For context, the next highest participant's net TV in cash and stock futures segment was INR 1,042.93 Cr and INR 159.15 Cr respectively, during the general underlying buy patch (i.e. 09:15:00 to 11:46:59). Further, in all the scrips (except HDFCBANK), JS contributed 15–25% of the entire market's traded value — a remarkably dominant share/ concentration. For perspective, the next highest participant's concentration in any of these scrips was much smaller (e.g. the next highest participant concentration in KOTAKBANK cash segment during the aforementioned general buy patch was only 8.09%, as opposed to 23.21% for JS Group), underscoring the disproportionate footprint of JS Group's activity.

**15.7.** Clearly, the JS Group accounted for a significant portion of the net buying in the 12 BANKNIFTY component stocks and their futures across all market participants during this Patch I. It was by far the single biggest net buyer of these stocks put together during this patch. This burst of buying clearly would have supported the prices of these securities. In addition, we examined Last Traded Price (LTP) based impact analysis — i.e., whether the orders and trades were placed or dealt above or below prevailing market prices by JS Group, thereby tending to push the price up or down. This transition from volume-based analysis to price-impact assessment is critical in further evaluating whether the activity was benign or aggressive. The result of the said analysis, capturing both order-level and trade-level LTP, is placed below.

**15.8.** LTP analysis of JS Group purchases in the BANKNIFTY constituent stocks (cash market) during Patch I is detailed below:

**Table 9 - Order level LTP-based analysis<sup>8</sup>**

Scrip	Buy order start time	Buy order end time	No. of buy orders entered	No. of buy orders above LTP	No. of buy orders at LTP	No. of buy orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCBANK	09:15:43	11:06:05	7184	1607	4677	900	282.35	-	-152.05	130.30
ICICIBANK	09:15:45	11:20:15	15316	7368	6318	1630	1,847.45	-	-177.75	1,669.70
AXISBANK	09:15:43	11:20:12	18743	9344	7295	2104	2,224.85	-	-260.00	1,964.85
SBIN	09:15:45	11:20:11	12692	6042	5608	1042	912.75	-	-84.10	828.65
KOTAKBANK	09:15:43	11:20:09	20274	7862	10337	2075	2,929.70	-	-276.65	2,653.05
INDUSINDBK	09:15:43	11:19:54	13601	8112	4252	1237	3,147.50	-	-186.70	2,960.80
FEDERALBNK	09:15:47	11:07:41	6118	2468	3145	505	133.80	-	-25.85	107.95
BANKBARODA	09:15:47	11:08:00	6990	3146	3295	549	215.45	-	-31.25	184.20
IDFCFIRSTB	09:15:50	11:07:40	774	327	403	44	17.40	-	-2.25	15.15
AUBANK	09:15:45	11:20:08	11161	5521	4430	1210	1,278.15	-	-127.15	1,151.00
PNB	09:15:57	11:07:28	613	279	304	30	14.90	-	-1.55	13.35

\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.

<sup>8</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

**Table 10 - Trade level LTP-based analysis**

Scrip	Buy trade start time	Buy trade end time	No. of buy trades executed	No. of buy trades above LTP	No. of buy trades at LTP	No. of buy trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact created by JS* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>9</sup>
HDFCBANK	09:15:43	11:06:05	22283	1618	19737	928	279.40	-	-156.10	123.30	-134.9
ICICIBANK	09:15:45	11:20:15	34673	7512	25456	1705	1,838.15	-	-185.30	1,652.85	-1659.3
AXISBANK	09:15:43	11:20:12	34343	9326	22880	2137	2,197.20	-	-262.70	1,934.50	-1928.3
SBIN	09:15:45	11:20:11	27894	6036	20798	1060	905.10	-	-85.20	819.90	-818.3
KOTAKBANK	09:15:43	11:20:09	35815	7850	25830	2135	2,885.95	-	-282.75	2,603.20	-2622.45
INDUSINDBK	09:15:43	11:19:54	21172	8147	11759	1266	3,113.40	-	-189.65	2,923.75	-2917.5
FEDERALBNK	09:15:47	11:07:41	16363	2464	13394	505	133.60	-	-25.85	107.75	-107.5
BANKBARODA	09:15:47	11:08:00	13767	3144	10054	569	214.05	-	-32.80	181.25	-178.15
IDFCFIRSTB	09:15:50	11:07:40	5515	327	5144	44	17.40	-	-2.25	15.15	-15
AUBANK	09:15:45	11:20:08	18274	5590	11423	1261	1,266.25	-	-131.35	1,134.90	-1140.25
PNB	09:15:57	11:07:28	4940	279	4631	30	14.90	-	-1.55	13.35	-12.4

*\*The figures are an aggregation of the difference between the "Trade Price" and the "Last Traded Price"*

<sup>9</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.

**15.9.** LTP analysis of JS Group purchases in the BANKNIFTY constituent stock futures during Patch I is detailed below:

**Table 11 - Order level LTP-based analysis<sup>10</sup>**

Scrip	Expiry	Buy order start time	Buy order end time	No. of buy orders entered	No. of buy orders above LTP	No. of buy orders at LTP	No. of buy orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCBANK	25-Jan-24	09:57:43	09:58:05	30	20	4	6	4.30	-	-0.65	3.65
ICICIBANK	25-Jan-24	09:15:05	11:46:50	4574	2977	1086	511	437.35	-	-50.65	386.70
AXISBANK	25-Jan-24	09:15:08	11:46:55	3222	2368	421	433	432.30	-	-51.10	381.20
SBIN	25-Jan-24	09:15:07	11:46:18	2052	1332	445	275	160.85	-	-22.45	138.40
KOTAKBANK	25-Jan-24	09:15:05	11:46:59	2730	1913	401	416	507.40	-	-75.90	431.50
INDUSINDBK	25-Jan-24	09:15:08	11:46:55	1916	1445	162	309	461.35	-	-69.55	391.80
FEDERALBNK	25-Jan-24	09:15:05	11:46:28	599	291	246	62	19.55	-	-3.60	15.95
BANKBARODA	25-Jan-24	09:15:06	11:46:47	1037	688	272	77	59.45	-	-4.85	54.60
IDFCFIRSTB	25-Jan-24	09:15:05	11:46:50	439	140	275	24	7.45	-	-1.20	6.25
AUBANK	25-Jan-24	09:15:16	11:46:56	1068	782	121	165	242.20	-	-28.80	213.40
PNB	25-Jan-24	09:15:06	11:41:32	404	154	231	19	8.35	-	-0.95	7.40

*\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.*

<sup>10</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

**Table 12 - Trade level LTP-based analysis**

Scrip	Expiry	Buy trade start time	Buy trade end time	No. of buy trades executed	No. of buy trades above LTP	No. of buy trades at LTP	No. of buy trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>11</sup>
HDFCBANK	25-Jan-24	09:57:43	09:58:05	52	21	25	6	4.25	-	-0.65	3.60	-2.3
ICICIBANK	25-Jan-24	09:15:05	11:46:50	6751	2996	3237	518	436.30	-	-51.30	385.00	-391.8
AXISBANK	25-Jan-24	09:15:08	11:46:55	4051	2378	1236	437	430.20	-	-51.80	378.40	-381.4
SBIN	25-Jan-24	09:15:07	11:46:18	3116	1340	1500	276	160.45	-	-23.05	137.40	-139.15
KOTAKBANK	25-Jan-24	09:15:05	11:46:59	3685	1927	1338	420	505.80	-	-76.40	429.40	-457.5
INDUSINDBK	25-Jan-24	09:15:08	11:46:55	2206	1454	438	314	459.20	-	-70.55	388.65	-387.8
FEDERALBNK	25-Jan-24	09:15:05	11:46:28	1215	290	863	62	19.50	-	-3.60	15.90	-16.4
BANKBARODA	25-Jan-24	09:15:06	11:46:47	1798	687	1034	77	59.35	-	-4.85	54.50	-50.95
IDFCFIRSTB	25-Jan-24	09:15:05	11:46:50	1293	140	1129	24	7.40	-	-1.20	6.20	-6.6
AUBANK	25-Jan-24	09:15:16	11:46:56	1196	787	239	170	240.90	-	-29.45	211.45	-217.65
PNB	25-Jan-24	09:15:06	11:41:32	977	154	804	19	8.35	-	-0.95	7.40	-4.95

*\*The figures are an aggregation of the difference between the "Trade Price" and the "Last Traded Price"*

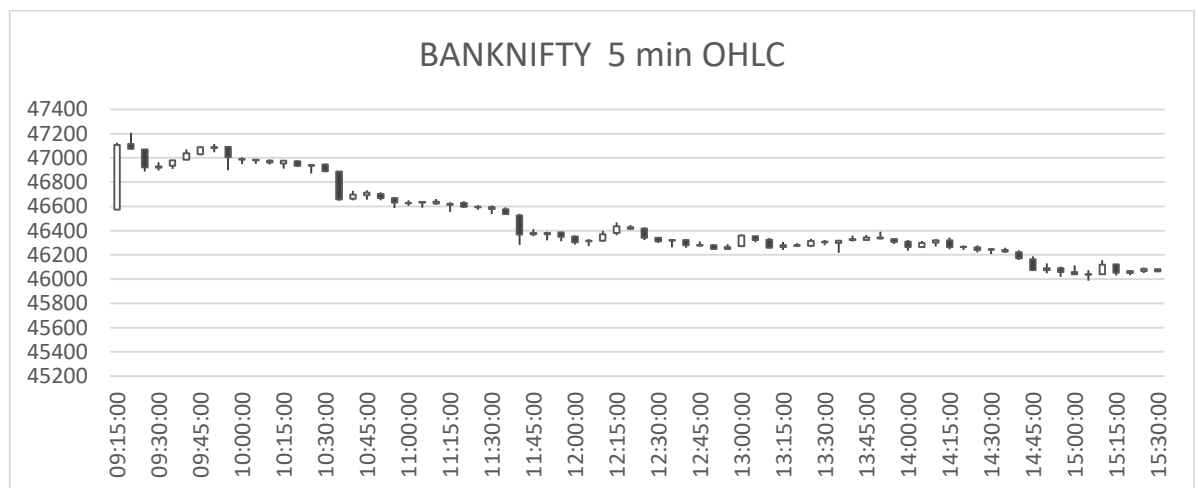
<sup>11</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip) for the impact created by Jane Street's trades.

- 15.10.** The above data reveals that during Patch I, JS group placed a disproportionately high number of buy orders at or above the LTP in BANKNIFTY constituent stocks (in both cash as well as futures segment) thereby either aggressively attempting to push up or support the price rise in the stocks.
- 15.11.** Further, for instance, in the case of *ICICIBANK* during Patch I, the stock opened at INR 994.20 and closed at INR 987.75, reflecting a net decline of INR 6.45 during the patch. However, a granular trade-level analysis revealed that Jane Street Group's trades alone accounted for a positive LTP impact of INR 1,652.85, implying that its trading activity was actively contributing to trying to push the stock price upward. Given that the stock nevertheless declined during the day, it follows that the LTP impact attributable to the rest of the market was negative INR 1,659.30.
- 15.12.** The actual execution of these buy orders at elevated prices contributed to supporting or pushing up the price of the individual stocks. Given that BANKNIFTY is a market-cap weighted index, this support or price elevation in its constituents directly resulted in the support or rise of the BANKNIFTY index. Through the aforesaid trades in constituents of BANKNIFTY in cash market through Patch I, the price impact of JS entities on the index after adjusting for weights of the constituents was +49,047.61, whereas that by all the other participants put together was -49,194.31. This is indicative of strong upward price push created by JS Group.
- 15.13.** This data-driven decomposition of price movement *prima facie* shows that Jane Street Group was exerting considerable upward pressure on the price of key index constituents during Patch I.
- 15.14.** Specifically, during the 8-minute patch from 09:15:00 to 09:22:59 on January 17, 2024, a more microscopic level trade-level LTP analysis was carried out for the top six BANKNIFTY constituent stocks, namely HDFC Bank, Kotak Bank, ICICI Bank, Axis Bank, SBI, and IndusInd Bank, which collectively represented 87.67% of the index weight.
- 15.15.** The analysis reinforces that the Jane Street Group persistently executed buy-side trades in these stocks, and the net LTP contribution from JS trades

was consistently positive across all six constituents. In contrast, the rest of the market exhibited a predominantly negative LTP contribution in the same period. This divergence suggests that while the broader market was exhibiting a bearish sentiment, JS Group was exerting upward price pressure across key index stocks. Overall, JS group purchased a significant INR 572 crores of stocks and futures in these six major BANKNIFTY component stocks during these 8 minutes.

**15.16.** Such activity, particularly in the opening minutes of the trading session, appears to have had a meaningful impact on the index level. The BANKNIFTY index moved significantly from 46,573.93 to 47,176.97 during this patch, a rise of over 600 points. The size, timing, alignment, and aggressive nature of JS Group's buy-side trades across high-weight constituents during this window supports the inference that the Group's actions contributed materially to this upward movement.

**15.17.** As will be shown below when considering the trading of JS Group in index options during this period, JS Group utilized this spike up in the index, which had been triggered largely by their own aggressive buying in BANKNIFTY component stocks and futures, to sell BANKNIFTY calls and buy BANKNIFTY puts and therefore put on significant larger short side positions in BANKNIFTY.



**15.18.** For detailed LTP contributions and comparative analysis during this 8-minute interval, refer to the table below. The table clearly shows that during the first 8 minutes, the JS Group was singlehandedly pushing the prices up in all of these major BANKNIFTY component stocks, eclipsing the sell side pressure from the rest of the market.

**Table 13**

	HDFC Bank		Kotak Bank		ICICI Bank		Axis Bank		SBI Bank		INDUSIND Bank	
Time (HH:MM)	LTP Diff – JS	LTP Diff-Other than JS	LTP Diff - JS	LTP Diff-Other than JS	LTP Diff - JS	LTP Diff-Other than JS	LTP Diff - JS	LTP Diff-Other than JS	LTP Diff - JS	LTP Diff-Other than JS	LTP Diff - JS	LTP Diff-Other than JS
09:15	1.15	16.6	14.8	-13.65	2.25	7.85	10.6	3.9	4.2	0.35	7.8	-5.45
09:16	5.1	-3.7	54.95	-53.2	35.85	-31.95	31.25	-30.6	21.75	-20.05	61.6	-63.9
09:17	19.55	-14.3	49	-48.85	24.75	-25.2	35.9	-35.7	27.8	-26.9	40.65	-39.85
09:18	2.3	-1.5	8.4	-7.05	2.2	-3.65	2.65	1.65	2	-1.65	4.65	-2.7
09:19	0.5	-1.7	0.05	3.6	0.75	2.8	0.4	1.4	0.1	0.25		0.05
09:20	-1.15	-7.35	-0.1	2	-1.05	2.2		8.8	-0.05	3.75		11.55
09:21	14	-13.5	10.9	-15.7	8.05	-8.65	24.15	-26.85	11.3	-11.45	26.05	-22.75
09:22	10.4	-14.65	35.25	-31.6	29.25	-31.5	53.9	-49.05	39.8	-38.65	131.35	-125.75
<b>Total</b>	<b>51.85</b>	<b>-40.1</b>	<b>173.25</b>	<b>-164.45</b>	<b>102.05</b>	<b>-88.1</b>	<b>158.85</b>	<b>-126.45</b>	<b>106.9</b>	<b>-94.35</b>	<b>272.1</b>	<b>-248.8</b>



## **(II) Patch I: Building very large short BANKNIFTY positions via index options**

**15.19.** The artificial support to index constituents by aggressive and large buying in cash and futures during Patch I coincided with JS Group simultaneously effectively selling BANKNIFTY via the index options segment. Specifically, it was observed that the Group took large short positions in At-The-Money (ATM) BANKNIFTY call options and long positions in ATM put options during the same patch. Note that by supporting the BANKNIFTY index through large and aggressive cash and futures market purchases during the patch, JS Group created conditions that misled BANKNIFTY index option participants with artificially inflated call option premiums and subdued put option premiums, allowing JS Group to enter into these options trades at very favourable pricing.

**15.20.** To reiterate and as discussed earlier, there are several more participants, including small retail participants, in the BANKNIFTY index options markets than in the underlying cash and futures markets. The vast majority of BANKNIFTY options participants that do not participate in the underlying cash or futures markets look to the index, determined by the cash market levels, to price and take a view on index options. In that sense, the aggressive and large intervention by the JS Group in Patch I lulled and induced the many participants in the BANKNIFTY index options to deal at prices that were heavily influenced by the intervention of JS Group in the component stocks and futures.

**15.21.** To further understand the underlying intent and design of the Jane Street Group's options strategy in granular detail, it is particularly instructive to examine how the Group built its exposure in Bank Nifty options during the first 8 minutes of the trading day. Accordingly, trades in select Put and Call Option contracts during the patch from 09:15:00 to 09:22:59 – during the time when the group was notably aggressive in its cash/ futures purchases, as noted earlier - were analysed.

**15.22.** The opening and closing premiums of the selected Put and Call Option contracts during the identified patch, along with their respective closing prices at the end of the trading day and BANKNIFTY Index values, are tabulated below:

Table 14

					LTP - Premium of PE option at various strikes at close of								
			BANKNIFTY Index Value	46573.93	46814.02	46879.13	47014.53	47060.41	47106.62	47143.73	47169.09	47176.97	46072.42
Trade Date	SYMBOL	EXPIRY_DATE	CONTRACT	Open	09:15	09:16	09:17	09:18	09:19	09:20	09:21	09:22	15:29
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_46800	229.6	123.55	131.05	131.45	104.25	82.6	65.25	72	70.05	734.75
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_46900	494.85	133.85	154.4	159	128.65	104.15	85.15	93.8	92.1	835
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47000	349.95	144.9	182.1	193.3	157.9	131.7	111	122	121.55	935.8
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47100	562.9	155	212.05	233.05	192.25	163.95	142.2	156.5	156.25	1038.95
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47200	499.95	171.35	250.3	279.9	234.45	204.15	181.3	199.95	200.25	1135.1
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47300	700	189.95	292.85	334.5	283.3	251.5	226.25	250.95	251.5	1234.75
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47400	790	224	346.8	396.95	340.15	307.75	283.1	311.85	312.35	1338
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47500	588	272.55	408.4	465.7	406.15	373.65	349	380.95	382.4	1435.55
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47600	817.35	333.2	481.7	544.95	478.85	445.95	420.7	457.55	458.6	1539
17/01/2024	BANKNIFTY	17/01/2024	BANKNIFTY_PE_2024-01-17_47700	535.75	410.75	561.8	627.7	560.5	527.35	502.55	538.5	543.2	1380
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_46800	198.7	653.45	511.15	440.3	481.15	491.9	501.45	469	458.15	0.65
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_46900	157.35	565.45	432.25	370.45	407.1	412.85	421.75	391.35	380.2	0.20
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47000	84	479.9	361.65	302.7	336.25	340.5	347.9	318.85	308.05	0.3
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47100	77.05	389.05	290.35	243.95	271.1	274.7	278.8	253.4	242.65	0.5
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47200	146.75	303.65	229.95	190.6	212.95	214.35	217.75	196.35	186	0.35
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47300	98.4	223.8	174.35	145.1	161.4	161.95	164.85	147.2	138.8	0.9
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47400	26.75	157.45	126.9	107.45	118.4	119.05	120.75	107.9	99.6	0.3
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47500	21.25	106.5	89.65	77.5	85.1	84.75	86.5	77.7	70.75	0.45
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47600	15	70.4	62.5	54.8	58.8	58.25	59.85	53.75	48.1	0.2
17/01/2024	BANKNIFTY	2024-01-17	BANKNIFTY_CE_2024-01-17_47700	15	48.35	43.5	38.45	39.8	39.05	40.55	36.5	32.25	0.2

- 15.23.** The trading pattern of JS Group in both BANKNIFTY Call and Put options reflects a clear bearish sentiment in cash-equivalent terms. In the call options segment, JS Group net cash-equivalent short exposure on BANKNIFTY during these eight minutes increased by INR 3,661.16 Cr.
- 15.24.** Similarly, in the BANKNIFTY Put options segment during these eight minutes, the resulting net delta exposure was even more bearish, amounting to negative INR 5,089.84 Cr.
- 15.25.** In effect, in the top 6 BANKNIFTY component stocks and futures, in the first 8 minutes, JS Group had net bought INR 572 crores worth aggressively, witness the LTP data around these purchases as described earlier. At the same time, across buying BANKNIFTY Puts and selling BANKNIFTY Calls at favourable Index levels engineered by their intervention in the cash and futures markets, JS Group had also managed to put up effective cash equivalent short BANKNIFTY exposure of INR 8,751 crores. In absolute terms, this was over 15 times the INR 572 crores of position put up in the component cash and futures market in that time.
- 15.26.** The relevant details have been tabulated below:

Table 15

Call Option								PUT Option							
Strike	Call long (09:15 to 09:22)			Call short (09:15 to 09:22)			Delta Exposure	Strike	Put long(09:15 to 09:22)			Put short(09:15 to 09:22)			Delta Exposure
	Premium			Premium					Premium			Premium			
	Min	Max	Qty	Min	Max	Qty			Min	Max	Qty	Min	Max	Qty	
44500			-			-	-	39500			-	0.55	1.15	1,82,340	-
45700			-			-	-	40000			-	0.75	1.10	34,920	-
45800			-			-	-	40500			-	0.65	1.25	17,400	-
46000	1225	1225	570			-	2,66,81,135	41000			-	0.70	1.10	16,425	-
46100			-			-	-	41500	0.95	0.95	900	0.85	1.65	1,29,705	-
46200			-			-	-	42000	0.9	0.9	6,300	0.85	1.80	1,23,690	-
46300			-			-	-	42500	1.05	1.15	13,500	0.75	1.75	1,06,575	-
46400			-	750	800	960	-4,17,79,323	43000	1.05	1.05	5,400	0.85	2.00	1,33,230	-
46500	730	770	4,425	700	722	2,250	9,99,05,552	43500	1.2	1.35	5,400	1.10	2.65	69,105	-
46600	593.55	677.5	1,005	591	861	3,420	-9,53,84,440	44000	1.8	1.8	4,500	1.25	3.15	1,39,050	-
46700	508.65	585	3,330	500	781	4,920	-5,95,22,805	44200			-	1.60	2.65	47,925	-
46800	429.65	527.9	15,825	427	690	31,995	-50,48,16,880	44300			-	1.50	2.85	1,02,420	-
46900	357.55	477.3	24,735	362	600	38,265	-37,13,47,831	44400			-	1.65	2.95	82,080	-
47000	287.5	606.3	69,210	287	660	2,11,710	-3,43,82,45,169	44500	2.1	2.35	8,100	1.70	2.80	1,39,020	-
47100	229.8	421	40,140	228	417	4,31,280	-9,21,87,45,105	44600	2.3	2.3	900	1.90	3.00	55,995	-
47200	146.9	422.95	50,055	177	328	7,90,050	-14,68,92,82,417	44700			-	2.00	2.95	1,18,980	-
47300	136.05	313	32,940	131	249	4,24,620	-6,36,15,71,301	44800	2.55	2.55	900	2.20	3.00	79,770	-
47400	98.05	275.7	17,670	96	253	2,32,995	-1,56,62,44,094	44900			-	2.15	2.55	1,20,330	-
47500	69	235.3	40,950	61	193	97,710	-60,45,18,616	45000			-	2.65	3.15	1,68,210	-
47600	47.95	152.7	12,780	47	134	30,960	-15,81,54,968	45100			-	3.00	3.35	21,750	-
47700	32.15	92	10,665	31	82	25,200	-8,92,97,401	45200			-			-	

Call Option								PUT Option							
Strike	Call long (09:15 to 09:22)			Call short (09:15 to 09:22)			Delta Exposure	Strike	Put long(09:15 to 09:22)			Put short(09:15 to 09:22)			Delta Exposure
	Premium			Premium					Premium			Premium			
	Min	Max	Qty	Min	Max	Qty			Min	Max	Qty	Min	Max	Qty	
47800	21.55	44.25	28,050	21	43	15,135	3,84,59,253	45300			-			-	-
47900	15.4	23.4	12,660	17	33	6,180	1,69,83,757	45400			-			-	-
48000	12	16.75	36,180	14	17	5,355	5,59,55,527	45500			-	4.25	4.95	1,72,290	19,40,671
48100	4.3	14.5	24,510	10	15	4,185	2,30,22,245	45600			-	5.90	6.95	92,025	26,00,992
48200	9.8	12	40,935	11	13	1,740	2,52,97,750	45700			-	5.80	6.20	23,175	14,19,205
48300	2.1	12	2,94,990			-	13,17,67,178	45800			-			-	-
48400	1.65	9.1	4,05,510			-	11,22,84,731	45900	44.6	44.8	900			-	-10,57,529
48500	2.15	7.15	3,15,690			-	4,06,94,634	46000	16.4	72.85	4,095	16.95	24.00	6,105	14,33,894
48600	2	6.2	1,11,975			-	73,35,299	46100	14.5	29.1	7,425	27.55	32.45	465	-61,15,749
48700	2	5.45	1,14,150			-	37,64,471	46200	12.7	34.95	8,250	20.00	38.00	7,050	18,18,323
48800	1.8	6.15	1,58,700			-	29,87,458	46300	14.5	86.65	11,925	16.60	48.70	1,875	-1,73,22,677
48900	2.75	6.35	2,59,860			-	21,25,892	46400	18.95	60.35	11,265	24.15	60.00	7,800	-11,18,168
49000	2.25	4.8	5,040			-	-	46500	25.15	90.2	31,260	28.45	76.60	76,890	24,55,07,410
49100			-			-	-	46600	33.25	93.05	38,205	33.15	94.00	62,295	17,46,06,081
49200			-			-	-	46700	43.75	118.5	56,385	43.95	113.30	75,645	22,84,86,317
49300			-			-	-	46800	57.8	155.1	52,515	58.10	135.80	94,665	51,49,86,836
49400			-			-	-	46900	76.25	209.1	41,070	76.65	218.55	71,070	48,01,59,801
49500			-			-	-	47000	100.75	241.75	2,46,195	101.00	199.20	1,62,300	-2,26,56,00,282
49600			-			-	-	47100	131.45	262.2	4,70,610	131.45	262.15	92,595	-9,04,41,62,846
49700	2.55	2.9	4,740			-	-	47200	158.55	290	9,21,255	151.45	287.90	78,045	-24,17,29,92,687
49800	2.55	2.8	1,665			-	-	47300	179.9	344.55	3,83,520	216.90	341.75	62,565	-9,95,98,83,243
49900	2.55	3.2	1,27,380			-	-	47400	208.85	400	1,69,980	273.45	404.40	25,260	-5,71,55,84,334
50000	2.5	2.85	18,570	3	3	3,600	-	47500	219.05	472.55	60,075	201.55	471.95	42,540	-69,06,65,853

Call Option								PUT Option							
Strike	Call long (09:15 to 09:22)			Call short (09:15 to 09:22)			Delta Exposure	Strike	Put long(09:15 to 09:22)			Put short(09:15 to 09:22)			Delta Exposure
	Premium			Premium					Premium			Premium			
	Min	Max	Qty	Min	Max	Qty			Min	Max	Qty	Min	Max	Qty	
50100	2.35	3	31,125	3	3	9,000	-	47600	311.4	555	21,780	228.75	500.00	5,580	-65,67,66,281
50200	2.3	3.1	46,695	3	3	1,800	-	47700	220.45	630	7,320	493.95	608.60	1,665	-23,61,13,773
50300	2.35	3.15	42,900	3	3	1,800	-	47800	604.55	680	2,805	352.05	690.00	2,280	-2,16,95,752
50400	2.25	3.15	85,395	2	3	6,300	-	47900	740	759.15	1,590	713.35	815.25	8,055	28,81,84,338
50500	2.15	2.9	80,880	3	3	1,800	-	48000	830	900	6,075	791.80	905.75	5,970	-57,50,522
50600	2.15	3.2	92,610	2	2	8,040	-	48100	925	1000	4,080	868.30	974.35	2,655	-6,62,90,669
50700	2.2	3.15	92,520	2	2	2,370	-	48200	1050	1100	2,775	998.00	1,055.65	570	-10,27,00,477
50800	2.1	3.1	45,030	2	2	4,500	-	48300	1115	1150	465			-	-2,17,26,730
50900	1.9	3.15	1,36,770			-	-	48400	1269.9	1269.9	30			-	-14,07,192
51000	1.6	2.9	2,16,555			-	-	48500			-	1,261.20	1,333.40	3,135	14,73,20,646
51100	1.75	3	66,795	2	2	3,600	-	48600			-			-	-
51200	1.7	3.05	42,150			-	-	48700			-			-	-
51500	1.5	2.7	64,770	1	1	15	-	48800			-			-	-
52000	1.55	2.45	55,890			-	-	48900			-			-	-
52500	1.65	2.3	21,645			-	-	49000			-			-	-
53000	1.45	2.2	21,345			-	-	49100			-			-	-
53500	1.25	2.1	17,355			-	-	49200			-			-	-
54000	1.25	1.8	11,520			-	-	49300			-			-	-
54500	1	1.7	10,455			-	-	49400			-			-	-
55000	0.9	1.4	43,440			-	-	49500			-			-	-
55500	0.9	1.3	35,100			-	-	49600			-			-	-
								49700			-			-	-
								49800			-			-	-

Call Option								PUT Option							
Strike	Call long (09:15 to 09:22)			Call short (09:15 to 09:22)			Delta Exposure	Strike	Put long(09:15 to 09:22)			Put short(09:15 to 09:22)			Delta Exposure
	Premium			Premium					Premium			Premium			
	Min	Max	Qty	Min	Max	Qty			Min	Max	Qty	Min	Max	Qty	
								49900			-			-	-
								50000			-			-	-
								50500			-			-	-
Grand Total			35,45,850			24,01,755	-36.61,16,45,465	Grand Total			26,07,750			30,73,485	-50.89,84,90,248

**15.27.** In the context of the full Patch I, the Group was seen buying BANKNIFTY Put options and selling BANKNIFTY Call options. During this patch, the delta position rose from the day's open of negative INR 7,311.19 Crores to negative INR 39,426.15 Crores by 11:47 AM, indicating an increase in bearish sentiment to the tune of INR 32,114.96 Crores. This was a substantial increase of 384% from the opening levels. Note that this net increase of cash-equivalent INR 32,114.96 crores in short positions in BANKNIFTY via index options, in absolute terms, was 7.3 times the INR 4,370.03 crores long position built by the group aggressively in the component cash/ futures markets

**15.28.** On further examining the trading behaviour of Jane Street Group on 17 January 2024, it is observed that a significant number of their BANKNIFTY option derivative trades were in and around At-the-Money ("ATM") strike contracts. Note that trader interest and liquidity in ATM contracts tends to be highest, allowing the JS Group to accumulate large sized BANKNIFTY index options exposures in the manner that they did.

**Patch II: Aggressive cash and futures selling of BANKNIFTY components, reversing the aggressive purchases of patch I**

**15.29.** Once the BANKNIFTY index option positions were in place through Patch I, the JS Group began systematically squaring off and dumping its holdings in the underlying constituents (through cash as well as futures segment) during Patch II spread across the rest of the day, i.e. between 11:49:00 and 15:30:00. During this Patch II, BANKNIFTY Index futures were also separately sold by the Group.

**15.30.** The nature and extent of selling by JS Group in the cash and futures market of BANKNIFTY component stocks, and in BANKNIFTY futures, is captured in the tables that follow:



**15.31.** In the stock futures market:

**Table 16**

Scrip	Sell start time	Sell end time	Open	High	Low	Close	No. of sell trades - JS	Sell trade quantity - JS	Sell side TV in INR Crs. – JS (A)	No. of sell trades – Market-wide	Sell trade quantity – Market-wide	Sell side TV in INR Crs. – Market-wide (B)	JS's traded value relative to market-wide traded value (in %) (A/B)
HDFCBANK	11:49:59	15:28:41	1561.7	1568	1528.4	1541.4	42,769	21,17,418	330.29	10,64,168	3,79,33,287	5,875.44	5.62%
ICICIBANK	11:50:12	15:22:49	981.8	988.55	978.6	980	37,817	44,63,170	438.84	2,45,447	1,76,98,802	1,740.55	25.21%
AXISBANK	11:50:01	15:12:04	1093	1097	1080.9	1082.7	48,465	25,11,466	273.58	2,77,040	1,04,76,341	1,141.31	23.97%
SBIN	11:49:59	15:29:22	626.4	629.6	623.4	626.35	35,956	34,48,238	215.88	2,21,753	1,38,70,654	868.51	24.86%
KOTAKBANK	11:50:09	15:28:49	1788.05	1789.2	1776.1	1777.6	29,263	11,34,123	202.07	1,94,508	54,62,480	973.25	20.76%
INDUSINDBK	11:50:13	15:29:08	1642.05	1651.5	1631.9	1642.8	16,021	6,97,721	114.48	1,25,051	32,62,605	535.68	21.37%
FEDERALBNK	11:50:34	13:54:05	145.95	146.9	143.85	146.45	7,931	39,16,350	56.84	81,092	1,53,81,092	223.29	25.45%
BANKBARODA	11:50:06	14:38:07	230.55	231.15	225.1	225.9	7,354	31,54,523	71.81	55,521	1,23,84,340	282.06	25.46%
IDFCFIRSTB	11:50:25	14:19:11	86.6	86.75	85.55	85.9	8,104	67,54,912	58.08	60,654	2,63,66,766	226.78	25.61%
AUBANK	11:50:15	15:28:48	750.4	760.75	744.2	755.05	20,810	6,05,639	45.69	87,139	27,42,704	206.96	22.08%
PNB	11:50:14	13:14:50	99	99.1	97	97.55	3,663	52,38,342	51.15	37,282	2,04,63,561	199.93	25.58%
BANDHANBNK	11:51:39	11:51:39	224.65	224.65	224.65	224.65	3	3,025	0.07	3	3,025	0.07	100.00%

**15.32.** In the stock futures market:

**Table 17**

Scrip	Expiry	Sell start time	Sell end time	Open	High	Low	Close	No. of sell trades - JS	Sell trade quantity - JS	Sell side TV in INR Crs. – JS (A)	No. of sell trades – Market-wide	Sell trade quantity – Market-wide	Sell side TV in INR Crs. – Market-wide (B)	JS's traded value relative to market-wide traded value (in %) (A/B)
HDFCBANK	25-Jan-24	12:19:16	15:29:58	1570.95	1571.3	1531.7	1547	8,118	61,55,600	956.30	42,843	2,79,93,350	4,344.02	22.01%
ICICIBANK	25-Jan-24	11:49:22	15:29:51	983.15	988.85	976.75	978.85	8,129	67,23,500	661.15	33,471	2,68,02,300	2,635.67	25.08%
AXISBANK	25-Jan-24	11:50:26	15:29:53	1094.6	1097.3	1080	1081	3,861	29,70,000	323.10	16,611	1,17,85,625	1,282.23	25.20%
SBIN	25-Jan-24	11:55:54	15:29:54	627.6	631.45	624.7	626.4	3,776	66,88,500	419.67	15,564	2,63,55,000	1,653.75	25.38%
KOTAKBANK	25-Jan-24	11:49:15	15:29:54	1793.65	1794.1	1775.9	1778.3	3,556	18,41,600	328.53	15,490	72,12,000	1,286.77	25.53%
INDUSINDBK	25-Jan-24	11:51:58	15:29:50	1648.55	1656	1636	1645	2,354	13,71,500	225.58	9,100	51,06,000	839.92	26.86%
FEDERALBNK	25-Jan-24	11:56:52	15:28:27	146	147.25	144.3	146.2	1,319	74,00,000	107.83	5,905	3,50,40,000	510.79	21.11%
BANKBARODA	25-Jan-24	11:56:28	15:29:52	230.65	230.65	225.1	226.15	1,656	62,27,325	141.81	11,059	3,84,14,025	873.36	16.24%
IDFCFIRSTB	25-Jan-24	11:56:50	15:29:54	86.8	86.9	85	85.4	1,581	1,39,27,500	119.76	8,880	7,65,15,000	657.82	18.21%
AUBANK	25-Jan-24	11:57:18	15:29:45	748.4	760.7	744.2	750.3	1,380	14,55,000	109.37	5,292	57,83,000	434.75	25.16%
PNB	25-Jan-24	11:56:41	15:29:01	98.55	98.6	96.85	97.55	1,016	1,07,68,000	105.12	5,792	5,72,00,000	558.52	18.82%

**15.33.** In the BANKNIFTY Index futures market:

**Table 18**

Scrip	Expiry	Sell start time	Sell end time	Open	High	Low	Close	No. of sell trades - JS	Sell trade quantity - JS	Sell side TV in INR Crs. – JS (A)	No. of sell trades – Market-wide	Sell trade quantity – Market-wide	Sell side TV in INR Crs. – Market-wide (B)	JS's traded value relative to market-wide traded value (in %) (A/B)
BANKNIFTY	25-Jan-24	14:46:14	15:08:45	46314.8	46337.9	46051	46081.6	2,203	92,850	428.81	16,486	4,82,760	2,229.85	19.23%

**15.34.** As can be seen from In the stock futures market:

**15.35.** **Table 16** to **Table 18**, JS Group sold substantial amount of shares and futures of all 12 BANKNIFTY constituents during this Patch II, i.e. between 11:49:00 to 15:30:00. Their TV in the cash segment was INR 1,858.78 Cr and in the futures segment INR 3,513.34 Cr. They were by far the single largest net seller across BANKNIFTY component stocks and futures during this patch. For context, the next highest participant's net TV in cash and stock futures segment was INR 626.63 Cr and INR 649.97 Cr respectively, during the general underlying sell patch (i.e. 11:49:00 to 15:30:00).

**15.36.** Further, in all the heavy-weight scrips (except HDFCBANK), JS contributed 15–25% of the entire market's traded value. For context, the next highest participant's concentration in any of these scrips was much lower. For example, in KOTAKBANK

– cash segment, during the aforementioned general sell patch the next highest participant's concentration was only 12.22%, compared to 24.86% for JS Group.

**LTP contribution during Selling phase of BANKNIFTY constituents in cash and futures segment**

**15.37.** In continuation of the concentration analysis undertaken in paragraphs above, a LTP-based analysis was also carried out to further examine the potential price impact of trades executed by JS. The said analysis (pertaining to all of cash, stock futures, and BANKNIFTY Index futures), capturing both order-level and trade-level dimensions, is placed in the following paragraphs.

**15.38.** In the cash market:

**Table 19 - Order level LTP-based analysis<sup>12</sup>**

Scrip	Sell order start time	Sell order end time	No. of sell orders entered	No. of sell orders above LTP	No. of sell orders at LTP	No. of sell orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCBANK	11:49:59	15:28:40	11389	835	1859	8780	190.95	-	-2,043.50	-1,852.55
ICICIBANK	11:50:12	15:22:49	14262	772	5279	8211	73.80	-	-1,399.80	-1,326.00
AXISBANK	11:50:01	15:12:04	23221	1566	8315	13340	164.50	-	-3,005.30	-2,840.80
SBIN	11:49:59	15:29:22	14470	1238	5542	7690	102.60	-	-743.90	-641.30
KOTAKBANK	11:50:09	15:28:49	13744	1609	4321	7964	361.60	-	-2,581.55	-2,219.95
INDUSINDBK	11:50:13	15:29:08	10006	1650	3409	5066	338.20	-	-1,280.90	-942.70
FEDERALBNK	11:50:34	13:54:05	1181	37	304	840	1.85	-	-46.75	-44.90
BANKBARODA	11:50:06	14:38:07	2554	232	851	1471	14.35	-	-107.80	-93.45
IDFCFIRSTB	11:50:25	14:19:11	382	17	130	235	0.85	-	-12.70	-11.85
AUBANK	11:50:15	15:28:45	10920	1233	4915	4924	163.45	-	-1,045.00	-881.55
PNB	11:50:14	13:14:50	465	20	189	256	1.00	-	-13.85	-12.85

\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.

<sup>12</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

**Table 20 - Trade level LTP-based analysis**

Scrip	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP*  (in INR)  (A)	Trade price based LTP impact for trades executed at LTP*  (in INR)  (B)	Trade price based LTP impact for trades executed below LTP*  (in INR)  (C)	Trade price based net LTP impact*  (in INR)  (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>13</sup>
HDFCBANK	11:49:59	15:28:41	42769	1204	32767	8798	231.00	-	-2,037.75	-1,806.75	1,786.45
ICICIBANK	11:50:12	15:22:49	37817	812	28672	8333	77.35	-	-1,387.90	-1,310.55	1,308.75
AXISBANK	11:50:01	15:12:04	48465	1610	33513	13342	167.80	-	-2,973.50	-2,805.70	2,795.40
SBIN	11:49:59	15:29:22	35956	1259	27029	7668	104.05	-	-739.45	-635.40	635.35
KOTAKBANK	11:50:09	15:28:49	29263	2024	19240	7999	420.05	-	-2,550.60	-2,130.55	2,120.10
INDUSINDBK	11:50:13	15:29:08	16021	1730	9203	5088	300.50	-	-1,251.40	-950.90	951.65
FEDERALBNK	11:50:34	13:54:05	7931	38	7058	835	1.90	-	-46.35	-44.45	44.95
BANKBARODA	11:50:06	14:38:07	7354	237	5647	1470	14.80	-	-107.05	-92.25	87.60
IDFCFIRSTB	11:50:25	14:19:11	8104	17	7851	236	0.85	-	-12.65	-11.80	11.10
AUBANK	11:50:15	15:28:48	20810	1369	14396	5045	145.70	-	-1,027.15	-881.45	886.10
PNB	11:50:14	13:14:50	3663	20	3387	256	1.00	-	-13.85	-12.85	11.40
BANDHANBNK	11:51:39	11:51:39	3	0	3	0	-	-	-	-	0.00

\*The figures are an aggregation of the difference between the “Trade Price” and the “Last Traded Price”

<sup>13</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street’s trades.

15.39. In the stock futures market:

**Table 21 - Order level LTP-based analysis<sup>14</sup>**

Scrip	Expiry	Sell order start time	Sell order end time	No. of sell orders entered	No. of sell orders above LTP	No. of sell orders at LTP	No. of sell orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCBANK	25-Jan-24	12:19:16	15:29:58	5581	678	1108	3795	82.60	-	-747.10	-664.50
ICICIBANK	25-Jan-24	11:49:22	15:29:51	5640	556	1354	3730	49.55	-	-482.00	-432.45
AXISBANK	25-Jan-24	11:50:26	15:29:53	2952	351	458	2143	42.20	-	-401.70	-359.50
SBIN	25-Jan-24	11:55:54	15:29:54	2525	300	539	1686	22.80	-	-195.45	-172.65
KOTAKBANK	25-Jan-24	11:49:15	15:29:54	2905	432	387	2086	77.65	-	-521.30	-443.65
INDUSINDBK	25-Jan-24	11:51:58	15:29:50	1914	214	201	1499	37.05	-	-455.50	-418.45
FEDERALBNK	25-Jan-24	11:56:52	15:28:27	531	34	215	282	1.85	-	-18.45	-16.60
BANKBARODA	25-Jan-24	11:56:28	15:29:52	861	67	253	541	4.15	-	-42.05	-37.90
IDFCFIRSTB	25-Jan-24	11:56:50	15:29:54	453	21	281	151	1.05	-	-7.95	-6.90
AUBANK	25-Jan-24	11:57:18	15:29:45	1099	155	108	836	25.60	-	-218.60	-193.00
PNB	25-Jan-24	11:56:41	15:29:01	428	20	213	195	1.30	-	-11.25	-9.95
BANDHANBNK	25-Jan-24	13:55:44	15:28:55	175	131	65	100	54.60	-	-29.75	24.85

*\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.*

<sup>14</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

**Table 22 - Trade level LTP-based analysis**

Scrip	Expiry	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>15</sup>
HDFCBANK	25-Jan-24	12:19:16	15:29:58	8118	693	3592	3833	84.20	-	-740.40	-656.20	632.25
ICICIBANK	25-Jan-24	11:49:22	15:29:51	8129	595	3748	3786	52.15	-	-477.90	-425.75	421.45
AXISBANK	25-Jan-24	11:50:26	15:29:53	3861	354	1346	2161	42.95	-	-395.40	-352.45	338.85
SBIN	25-Jan-24	11:55:54	15:29:54	3776	306	1773	1697	23.25	-	-193.70	-170.45	169.25
KOTAKBANK	25-Jan-24	11:49:15	15:29:54	3556	441	1006	2109	73.75	-	-515.95	-442.20	426.85
INDUSINDBK	25-Jan-24	11:51:58	15:29:50	2354	222	596	1536	37.95	-	-447.20	-409.25	405.7
FEDERALBNK	25-Jan-24	11:56:52	15:28:27	1319	34	1004	281	1.85	-	-18.35	-16.50	16.7
BANKBARODA	25-Jan-24	11:56:28	15:29:52	1656	67	1048	541	4.15	-	-42.05	-37.90	33.4
IDFCFIRSTB	25-Jan-24	11:56:50	15:29:54	1581	21	1410	150	1.05	-	-7.90	-6.85	5.45
AUBANK	25-Jan-24	11:57:18	15:29:45	1380	159	379	842	26.20	-	-217.35	-191.15	193.05
PNB	25-Jan-24	11:56:41	15:29:01	1016	20	801	195	1.00	-	-11.25	-10.25	9.25
BANDHANBNK	25-Jan-24	13:55:57	15:28:55	244	29	111	104	5.95	-	-21.40	-15.45	15.45

\*The figures are an aggregation of the difference between the "Trade Price" and the "Last Traded Price"

#### 15.40. In the BANKNIFTY Index futures market:

<sup>15</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.



**Table 23 - Order level LTP-based analysis<sup>16</sup>**

Scrip	Expiry	Sell order start time	Sell order end time	No. of sell orders entered	No. of sell orders above LTP	No. of sell orders at LTP	No. of sell orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
BANKNIFTY	25-Jan-24	14:46:14	15:08:45	1702	366	177	1159	594.00	-	-4,374.55	-3,780.55

**Table 24 - Trade level LTP-based analysis**

Scrip	Expiry	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>17</sup>
BANKNIFTY	25-Jan-24	14:46:14	15:08:45	2203	376	654	1173	609.10	-	-4,339.70	-3,730.60	3,497.40

<sup>16</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

<sup>17</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.

**15.41.** As can be seen from **Table 19** through **Table 24** above, during the latter part of the trading day in Patch 2, JS Group placed a disproportionately high number of sell orders at or below the LTP in BANKNIFTY constituent stocks (in both cash as well as futures segments), where thousands of such orders were placed. Similar orders were placed for BANKNIFTY Index futures too. The actual execution of these sell orders at sunken prices contributed incrementally to the downward price movement of the individual stocks. The large negative LTP, relative to the market LTP, has the effect of pushing down the prices of the BANKNIFTY constituent stocks. Given that BANKNIFTY is a market-cap weighted index, the downward pressure on price in its constituents directly resulted in the deflation of the BANKNIFTY index. The price impact in terms on the index after adjusting for weights of the constituents was - 55,713.56 (i.e., on the downside) by JS Group entities, whereas that by all the other participants put together is +55,400.71 on the upside. This is indicative of strong downward price push created by JS entities.

**15.42.** As the BANKNIFTY index began to decline during the latter part of the trading session on January 17, 2024, there was a corresponding surge in the value of Put options and a depreciation in the value of Call options - a movement that perfectly aligned with the Jane Street Group's options positioning. Recall that the Group had built a substantial negative cash-equivalent or delta exposure during the first half of the session, in Phase I.

**15.43.** Between 14:15:00 and 15:30:00, the MTM profit on expiry-day options positions saw a sharp and sustained rise. The MTM profit curve, when plotted minute-by-minute, shows an steep upward incline, particularly as the index accelerated its fall. Jane Street Group capitalised on this setup by selling the Puts purchased earlier and Buying back the Calls sold earlier, effectively locking in substantial gains across both legs of the trade.

To illustrate:

The expiry-day delta exposure transitioned from negative INR 7,311.19 Crore at around 09:30:00 to negative INR 46,620.79 Crore at peak around 13:53:00, and finally back to INR 24,884.63 Crore by close, indicating that

the positions were not only directionally structured but also unwound within the same session as BANKNIFTY declined over the course of Phase II.

The total profit on expiry-day contracts is estimated at INR 662.48 Cr, out of which INR 168.60 Crore (approximately 25% of day's profit) was generated during the 14:15–15:30 window alone.

Note that in the intraday trading undertaken by JS Group in BANKNIFTY constituent stocks and futures, i.e., the aggressive and large buying in Patch I, followed by the aggressive and large selling in Patch II, the JS Group booked an intraday loss of INR 61.6 crores on the day. Given the aggressive and large nature of trading reversal, this is not especially a surprising outcome. This in fact indicates that standalone, such intraday trading may not have any meaningful economic rationale. There is every indication that these were not in fact standalone trades, but trades that were part of a deliberate strategy to manipulate indices to the advantage of the trading and positions of JS Group in BANKNIFTY Index Options.

Such precision in timing, where reversal of Patch I index constituent stock and futures purchases, significant LTP impact downwards, significant profit in BANKNIFTY options that more than compensate for the intraday losses in both BANKMIFTY constituents and segments, and position unwinding in BANKNIFTY options converge with maximization of profitability, suggests a pre-mediated and carefully executed trade design. The Group's actions in the underlying segments (cash, stock futures, and index futures), which had a tangible LTP impact, contributed to pushing down the BANKNIFTY index towards the close. This was then monetised through options positions that generated increasing returns as the market moved in the direction.

## II. Comparison with previous day and subsequent day

**15.44.** An essential parameter to assess whether a trading day reflects ordinary execution or anomalous activity is the GTV<sup>18</sup> generated by Jane Street Group across the equity and derivative segments. A spike in GTV on a particular day, especially when accompanied by directional price movement and high-impact execution, may suggest targeted, non-routine strategy deployment, often expiry-driven.

**15.45.** Accordingly, the GTV figures for Jane Street Group were compared across T-1 (previous trading day), T (event/expiry day), and T+1 (next trading day) for January 17, 2024.

**Table 25**

Day	Dates	GTV in INR Crores			
		Cash (A)	Stock Futures (B)	BANKNIFTY Index Futures (C)	Total GTV (A)+(B)+(C)
		(12 Constituents)	(12 Constituents)		
T-1	16-Jan-2024	214.41	1,935.77	-	2,150.18
T	17-Jan-2024	3,710.42	6,102.58	844.33	10,657.33
T+1	18-Jan-2024	626.24	1,956.86	-	2,583.10

**15.46.** On January 17, 2024, the total GTV of Jane Street Group was approximately 5 times higher than on the previous day and 4 times higher than the subsequent day.

**15.47.** The surge in volumes was particularly sharp during two distinct intraday patches — the underlying buy patch and the underlying sell patch.

**15.48.** The sharp reversal of GTV trend post-expiry (on January 18) confirms that the heightened activity on the expiry day was event-specific and not part of regular trading behaviour.

### **Why is the “Intra Day Index manipulation strategy” as described above considered manipulative?**

**15.49.** As described above, on January 17, 2024, JS Group traded in an “Intra Day Index Manipulation pattern”. Dealing in multiple segments across cash equities, stock futures, index futures, and index options simultaneously is certainly not by itself a breach of any regulation. However, what sets apart the

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<sup>18</sup> Gross Traded Value

trading pattern of the JS Group as described above as prima facie being manipulative, is the intensity and sheer scale of their intervention in the underlying component stock and futures markets, the rapid reversal of these large and aggressive trading in cash and futures without any plausible economic rationale, other than the concurrent activity in and impact on their positions in the BANKNIFTY index options markets.

**15.49.1.** In the morning (Patch I), JS Group were by the single largest and aggressive buyer in BANKNIFTY component stocks and futures markets, to the tune of INR 4,370.03 crores.

**15.49.2.** Simultaneously, in the same morning Patch I, at a time when market participants were misled by the artificial support provided to BANKNIFTY index levels by JS Group's large and aggressive intervention in constituent stocks and futures, JS Group net sold a significantly higher cash equivalent of INR 32,114.96 crores via BANKNIFTY options, by buying BANKNIFTY puts and selling BANKNIFTY calls in the much more liquid index options market.

**15.49.3.** In Patch II through the rest of the day, JS Group reversed and dumped the morning's purchases, and net sold BANKNIFTY component stocks, stock/ index futures to the tune of INR 5,372.12 crores. They were by far the single largest net seller across these segments. The LTP analysis further shows that they did so in an aggressive manner designed to push down the underlying stock prices and hence BANKNIFTY index levels. Note that this intraday trading of aggressively buying large of BANKNIFTY component stocks and futures in Patch I, followed by aggressive reversal and selling them in Patch II, resulted in Jane Street Group booking a net intraday trading loss of INR 61.6 crores.

**15.49.4.** The resultant downward pressure on BANKNIFTY at expiry, allowed JS Group to profit immensely from their outstanding net short cash equivalent positions in the BANKNIFTY index options segment. They made a profit of INR 734.93 on the day, across BANKNIFTY Index options.

**15.50.** In summary, the specific pattern of trading undertaken by the JS Group on January 17, 2024, exhibits the following characteristics that single it out to be of manipulative intent:

**15.50.1.** In Patch I, JS Group is seen buying BANKNIFTY component stocks and futures aggressively, and in large sizes, to move up BANKNIFTY index. In Patch II through the rest of the day, it is seen reversing and aggressively selling all of its large purchased positions (and more), thereby pushing down BANKNIFTY Index. Unsurprisingly, given the sheer volumes involved as a percentage of total market trading volumes, it booked a significant trading loss of INR 61.6 crores in the cash and futures segment in the process. There is no economic rationale possible to justify such trading activity on a standalone basis; in fact, given the sheer sizes, manner of trading and transaction costs involved, such activities would invariably tend to end with net trading losses.

**15.50.2.** Note that the intraday reversal of positions in the cash market was conducted by JS Group in its India entities viz. JSI Investments Private Limited. Note further that SEBI (Foreign Portfolio Investors) Regulations, 2019 do not allow FPIs to undertake intraday trades, instead, all of their trades must be settled.

**15.50.3.** By preponderance of probability, the sharp buying in BANKNIFTY component shares and futures in Patch I was designed to artificially push up BANKNIFTY Index, and thereby to push up the prices of BANKNIFTY calls and push down the prices of BANKNIFTY puts. JS Group certainly exploited this to the hilt, and they simultaneously purchased BANKNIFTY puts and sold BANKNIFTY calls in size, at very advantageous prices.

**15.50.4.** Note that JS Group was, by preponderance of probability, fully aware that they would reverse all of the significant purchases of BANKNIFTY stocks and futures of the morning by the end of the day. They were aware, therefore, that the stock and BANKNIFTY prices were being held artificially up for a short period of time by their own aggressive actions in the underlying cash and futures markets. They were also aware that BANKNIFTY was almost certainly likely to fall again by the end of the day, given their intent to aggressively sell back all of their morning

purchases (and more). As has been described above, the many entities that trade solely in the BANKNIFTY index options markets and look to the current BANKNIFTY level to price their options, were unaware of all this, and were hence enticed to deal at a time that the BANKNIFTY itself was being artificially and temporarily propped up.

**15.50.5.** Finally, the significant and aggressive dumping of BANKNIFTY component stocks and futures in Patch II (in sharp reversal of the heavy and aggressive pumping purchases done in the morning) was immensely profitable for the extremely large BANKNIFTY option positions being run by the JS Group, and to the detriment of all those that had traded in the morning against JS Group at artificial prices. This was a classic case of ‘marking-the-close’, where an entity with huge options exposures that are expiring shortly, is moving the underlying market aggressively in its favour.

**15.51.** In light of the above, by preponderance of probability, the “intraday index manipulation strategy” is indicative of the following fraudulent and manipulative behaviour:

**15.51.1.** JS Group was exploiting its size and sheer volume to move the underlying BANKNIFTY index level, so as to benefit from its much larger actions or positions in the BANKNIFTY index options segment

**15.51.2.** By moving the BANKNIFTY index with large and aggressive buying followed then by large and aggressive selling, JS group was creating a false or misleading appearance of market activity. In the bargain, it was enticing unsuspecting entities trading in BANKNIFTY index options to trade at interim levels that were artificial and temporary.

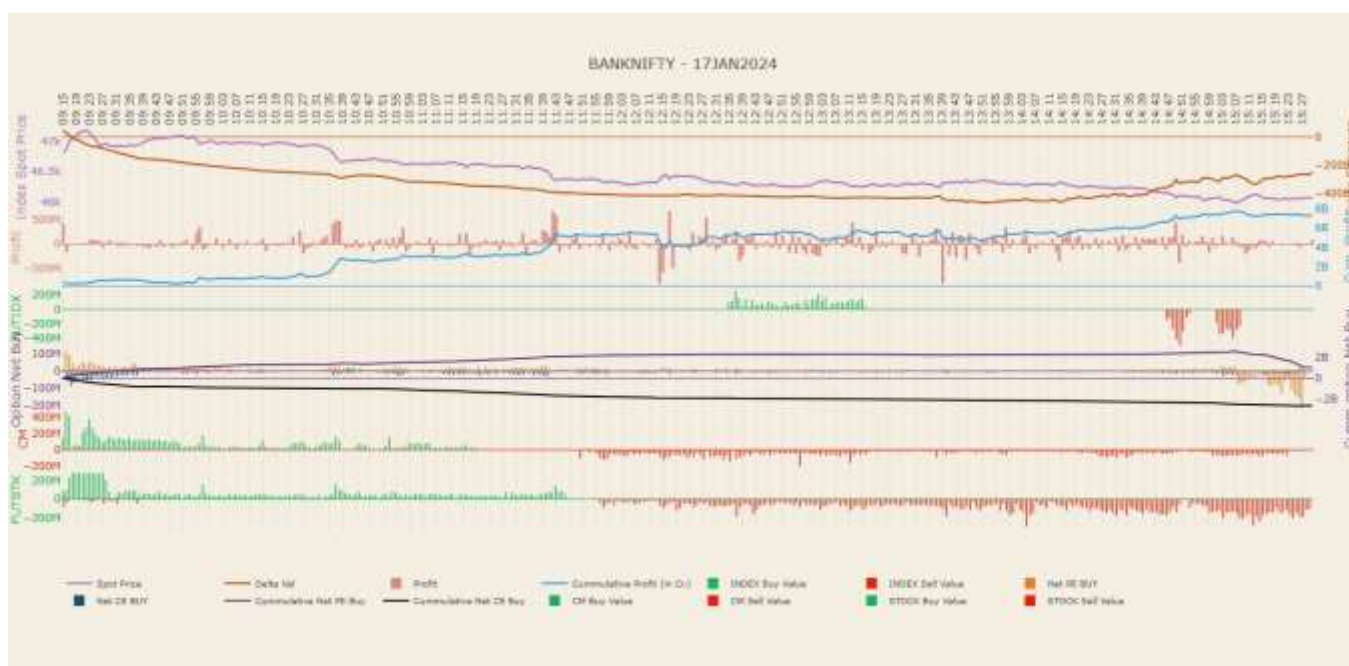
**15.51.3.** JS Group was undertaking these large (by percentage GTV) and aggressive (by LTP) trades in the underlying BANKNIFTY component stocks and futures, not for investment or for any other standalone economic rationale. In fact, given the sheer size and aggressive nature of the intervention in cash and futures markets and the immediate reversal the same day, the standalone trades in the cash and futures were more likely to end up showing a large net loss. By preponderance of probability, these trades were undertaken only to distort BANKNIFTY index option

prices in the interim and entice market participants in BANKNIFTY index options to trade at such distorted levels, while JS Group would take advantage of this and run much larger opposite side positions in the index options market.

**15.51.4.** JS, vide its letter to SEBI dated August 30, 2024, has suggested that these trades were to “remove unwanted delta” or to “manage overall delta”. These bland statements do not take away from any of the arguments made above. By preponderance of probability, and given the arguments and data presented above, JS Group was undertaking an intentional, well-planned, and sinister scheme and artifice to manipulate cash & futures markets and hence manipulate the BANKNIFTY index level, to entice small investors to trade at unfavourable and misleading prices, and to the advantage of the JS Group.

## GRAPHICAL ANALYSIS

**15.52.** For reference, graphical analysis of trading and delta build-up for January 17, 2024 (weekly expiry of BANKNIFTY option contracts) is given below.



**15.53.** The graph above can be accessed through the QR code given below:





**15.54.** The graphical representation captures the following:

Label (Bottom to Top)	Meaning	Color and chart used	Value Reference (Right or Left)
FUTSTK	Net Buy/ Sell value in Stock Futures Segment of BANKNIFTY Index constituents – for each time segment	Green and Red bar graph	Left
CM	Net Buy/ Sell value in Cash Segment of BANKNIFTY Index constituents- for each time Segment	Green and Red bar graph	Left
Option Net Buy	Net Buy/Sell value in Index Options segment for BANKNIFTY - for each time segment	Blue bar graph – Call Option Buy/sell  Orange bar graph – Put Option Buy/Sell	Left
Cumulative Option Net Buy	Cumulative Net Buy/Sell value in Index Options segment for	Purple line graph – Cumulative Put Option Buy/Sell	Right

Label (Bottom to Top)	Meaning	Color and chart used	Value Reference (Right or Left)
	BANKNIFTY - upto each time segment from begin of day	Black line graph – Cumulative Call Option Buy/Sell	
FUTIDX	Net Buy/Sell value in the Index Futures Segment – for each time segment	Green bar graph	Left
Profit	Profit/loss in Index Options Segment for BANKNIFTY – for each time period (details in Annex-4)	Pink colored bar graph	Left
Cum. Profit	Cumulative profit/loss in the Index Options Segment for BANKNIFTY – up to each time segment from begin of day	Blue colored line graph	Right
Index Spot Price	BANKNIFTY Spot Index Movement	Light Purple colored line graph	Left
Delta Exposure	Net Delta exposure value for Index Options Position in BANKNIFTY (Details in Annex-4)	Red colored line graph	Right

**15.55.** Besides January 17, 2024, this “intraday index manipulation” pattern of trading in BANKNIFTY shares/ futures/ options was observed on 14 other days. The details of the other 14 days, in terms of an overall graphical representation of the JS Group activity, and tables detailing the quantum of their intervention in cash and futures markets during different patches (including as a percentage of Gross Traded Volume), the level of aggression of their intervention (as evidenced by order and trade LTP), and their trading activity and cash-equivalent positions in the index options segment are presented in Annexure 2.

**15.56.** The day-wise profits for the 15 days wherein the aforesaid “Intraday Index manipulation” strategy was employed by JS Group has been recorded in **Table 44** of this Order. The total profit made by the JS Group in BANKNIFTY

index options across the 15 days was INR 3,914 crores. Across these 15 days, in intraday trading in BANKNIFTY constituent stocks and futures, the JS Group incurred a loss of INR 199.7 crores.

## 16. “Extended Marking The Close” Strategy

**16.1.** The JS Group’s trading pattern constituting “extended marking the close strategy” is tabulated and summarized below, for ease of reference:

**Table 26 - Extended Marking the Close Strategy**

Time Segment	Observed Activity	Market Segment
09:15 – 14:30	Low-volume, non-directional or passive trading	All segments
14:30 – 15:30	Accumulation/ holding of significant cash-equivalent positions in Index Options	Index Options
14:30 – 15:30	Aggressive and large directional intervention in Index constituent stocks and futures, to move the market in a direction favourable to the large open positions in Index options	Cash + Stock Futures + Index Futures
15:30 Close	Index closes at a level favourable for the large positions of JS group in index options	Index
Post-Market	Profits booked in Index	Index Options

**16.2.** During the course of the extended examination, a different pattern from the earlier “Intraday Index manipulation pattern” was observed on July 10, 2024 and two other days, all of which also happened to be a BANKNIFTY expiry day. Unlike the January 17, 2024 pattern, which involved two distinct and opposite side trading patches in underlying BANKNIFTY stocks and futures, the trading activity on July 10, 2024 in BANKNIFTY constituent stocks and futures was concentrated almost entirely in the final phase of the trading session. This showed all characteristics of an extended “marking-the-close” strategy. This deviation prompted a closer examination of the said day and a further review of other dates with similar trading patterns.

**16.3.** ‘Extended marking the close’ refers to a manipulative trading practice where an entity aggressively places large buy or sell orders in the final moments of a trading session, with the specific intent of influencing the closing price of a security or index to its advantage. This practice is particularly concerning on derivative expiry days, as the closing price directly affects the

settlement value of index-based contracts, thereby impacting payoffs for all market participants. Typically, extended marking the close involves aggressive and large buying (or selling) of securities just before market close to push the price up (or down), to ensure the reference stock or the index sets at a level more favourable for even larger derivative positions that are being settled on that day.

**16.4.** Subsequent analysis revealed that JS Group engaged in sharply timed buy-side or sell-side activity in futures and stock segments during the closing window, when they held pre-existing large positions in weekly expiring index options.

**16.5.** In the context of July 10, 2024, data indicates that the BANKNIFTY index experienced a sharp decline in the final 45–60 minutes of the trading session, suggestive of aggressive sell orders in index constituents and their futures executed during that period. This downward price pressure appears to have been artificially induced by JS Group, with the objective of pushing down the expiry settlement price of the BANKNIFTY index.

**16.6.** Given that BANKNIFTY options expire based on the index's closing value, any last-minute price distortion including a push-down in Index value can yield significant economic advantage to entities holding enormous short Call or long Put positions. Thus, the pattern seen on July 10, 2024 may represent a case of downward "extended marking the close".

**16.7.** Prima facie, Jane Street Group strategically built or retained short Call or long Put positions in BANKNIFTY options expiring the same day, and subsequently executed large and aggressive sell-side trades in underlying index constituents in stocks and futures in order to depress the BANKNIFTY index in the closing minutes. The resultant lower expiry value directly increased the profitability of their disproportionately large outstanding BANKNIFTY index options positions.

**16.8.** During the patch 14:30:00 to 15:30:00, Jane Street Group significantly sold off positions in BANKNIFTY constituent stocks in both the cash and stock futures markets. Further, significant sell-off activity was also observed in BANKNIFTY Index futures. The relevant data has been captured in succeeding paragraphs.

**16.9.** JS Group activities in the cash market of the BANKNIFTY constituent stocks

**Table 27**

Scrip	Sell start time	Sell end time	Open	High	Low	Close	No. of sell trades - Jane Street Group	Sell trade quantity - Jane Street Group	Sell side TV in INR Crs. – Jane Street Group (A)	No. of sell trades – Market-wide	Sell trade quantity – Market-wide	Sell side TV in INR Crs. – Market-wide (B)	Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)
HDFCBANK	14:30:03	14:50:58	1623.6	1627.3	1623.3	1624.9	1,392	98,980	16.09	21,467	12,46,309	202.54	7.94%
ICICIBANK	14:30:14	15:25:58	1245.15	1246.9	1240.4	1242.9	4,296	3,63,299	45.17	60,934	81,76,334	1,016.58	4.44%
AXISBANK	14:31:00	14:52:23	1293.1	1293.8	1287.4	1289.5	399	24,506	3.16	11,978	5,86,743	75.77	4.18%
SBIN	14:30:18	15:24:14	848	850.9	847.05	850.85	3,005	2,33,208	19.79	56,848	50,83,244	431.43	4.59%
KOTAKBANK	14:30:12	15:27:17	1825.65	1837.9	1825	1834	2,572	1,59,133	29.11	45,830	23,49,128	429.71	6.77%
INDUSINDBK	14:30:54	14:56:39	1421.9	1425.8	1421.5	1424.9	356	6,475	0.92	12,878	2,57,024	36.59	2.52%
AUBANK	14:42:25	15:19:44	631.3	631.75	627.45	628.45	4,260	1,70,809	10.76	29,504	14,36,646	90.48	11.89%
PNB	14:30:21	15:27:14	119.18	119.59	118.89	119.04	9,349	32,15,867	38.33	51,546	1,29,87,680	154.85	24.75%

**16.10.** JS Group activities in the stock futures market of the BANKNIFTY constituent stocks

**Table 28**

Scrip	Expiry	Sell start time	Sell end time	Open	High	Low	Close	No. of sell trades - Jane Street Group	Sell trade quantity - Jane Street Group	Sell side TV in INR Crs. – Jane Street Group (A)	No. of sell trades – Market-wide	Sell trade quantity – Market-wide	Sell side TV in INR Crs. – Market-wide (B)	Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)
HDFCBANK	25-Jul-24	14:30:14	15:27:12	1630.85	1634.8	1630.8	1633.9	2,752	24,54,100	400.75	9,101	65,62,600	1,071.71	37.39%
ICICIBANK	25-Jul-24	14:30:05	15:27:14	1245.55	1247.4	1242.6	1245.3	2,639	29,56,800	368.13	8,339	77,60,200	966.29	38.10%
AXISBANK	25-Jul-24	14:30:07	15:26:48	1292.3	1294.6	1288.3	1290	2,099	16,97,500	219.27	5,755	43,90,000	567.16	38.66%
SBIN	25-Jul-24	14:30:00	15:27:14	849.3	852.95	849	852.2	2,759	29,21,250	248.58	7,972	76,59,000	651.78	38.14%
KOTAKBANK	25-Jul-24	14:30:03	15:27:15	1831.55	1840.8	1830.9	1837.6	1,395	7,54,000	138.32	4,159	20,02,400	367.36	37.65%
INDUSINDBK	25-Jul-24	14:30:00	15:27:15	1422.85	1431	1422.7	1429.1	1,227	7,13,000	101.83	3,296	18,64,000	266.23	38.25%
FEDERALBNK	25-Jul-24	14:30:29	15:27:03	188.87	190.18	188.7	189.01	993	55,70,000	105.40	2,606	1,46,50,000	277.28	38.01%
BANKBARODA	25-Jul-24	14:30:29	15:27:11	256.85	258.15	256.45	257.4	1,233	41,12,550	105.81	3,200	1,04,77,350	269.64	39.24%
IDFCFIRSTB	25-Jul-24	14:31:17	15:27:14	78.19	78.54	78.05	78.4	794	71,32,500	55.86	2,151	1,83,75,000	143.93	38.81%
AUBANK	25-Jul-24	14:30:15	15:27:15	631.2	633.1	628.6	630.9	942	11,17,000	70.48	2,510	28,36,000	178.98	39.38%
PNB	25-Jul-24	14:30:39	15:27:09	119.52	119.96	119.25	119.54	816	72,00,000	86.14	2,242	1,92,56,000	230.42	37.38%

**16.11.** JS Group activities in the BANKNIFTY index futures market:

**Table 29**

<b>Scrip</b>	<b>Expiry</b>	<b>Sell start time</b>	<b>Sell end time</b>	<b>Open</b>	<b>High</b>	<b>Low</b>	<b>Close</b>	<b>No. of sell trades - Jane Street Group</b>	<b>Sell trade quantity - Jane Street Group</b>	<b>Sell side TV in INR Crs. – Jane Street Group (A)</b>	<b>No. of sell trades – Market-wide</b>	<b>Sell trade quantity – Market-wide</b>	<b>Sell side TV in INR Crs. – Market-wide (B)</b>	<b>Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)</b>
BANKNIFTY	31-Jul-24	14:30:23	15:29:54	52282.95	52371.8	52252	52311.5	2,526	1,40,655	735.86	15,787	5,63,940	2,950.42	24.94%

- 16.12.** An examination of the Traded Volume (TV) data for July 10, 2024, reveals that Jane Street Group exhibited highly concentrated trading behaviour during the final leg of the trading session, in the BANKNIFTY constituent stocks – directly via both the cash and stock futures segments and indirectly via BANKNIFTY Index Futures. Specifically, during the impugned patch, the Group sold INR 163.33 Cr worth of shares in the cash segment, INR 1,900.57 Cr in single stock futures of Bank Nifty constituents, and INR 735.86 Cr in Bank Nifty index futures. Prima facie, as will be shown below, this cumulative INR 2,800 crore of large and aggressive intervention in BANKNIFTY related stocks and futures were with an intent to engineer a soft close in BANKNIFTY index on this expiry day, so as to benefit the much larger INR 44,153.87 crores of effective bearish cash-equivalent positions that JS Group was holding in the BANKNIFTY index options market at close.
- 16.13.** During the first five hours of the trading day (09:15 to 14:30), the Group's activity remained relatively muted in constituent stocks, with modest participation rates and no disproportionate footprint in any specific stock. However, starting around 14:30 and intensifying sharply post 15:00, the Group's activity spiked dramatically. This was visible especially in the stock futures segment – where the Group's traded volume in all constituent stocks in the last 60 minutes accounted for more than 35% of the market-wide total traded value. Note that the Volume Weighted Average Price in the last 30 minutes of trading (between 15:00 and 15:30) is used to compute settlement prices.
- 16.14.** The concentration in TV during the final 60 minutes, especially relative to the Group's own activity earlier in the day and to the total market volume strongly suggests a time-bound strategic execution plan. The disproportionate footprint in this narrow window of trading implies that these trades were not incidental or part of a normal liquidity-providing role, but rather carefully timed and scaled to exert impact on the price discovery process at a crucial closing time.
- 16.15.** Moreover, the concentration was not random — it was targeted across most of the constituents of the BANKNIFTY index, which directly influence the BANKNIFTY index value as evident from **Table 28** and **Table 29**. The selection



of these scrips, along with the volume deployment in each, appears designed to maximize index-level influence with minimum capital outlay, a hallmark of structured index-level manipulation.

**16.16.** Such spike in market share, limited to a very specific time frame near market close, raises red flags when viewed in the context of derivative settlement mechanics, as the BANKNIFTY expiry is based on the last 30 minutes' volume weighted average price (the closing price) of its constituents. The high GTV concentration at close, in scrips that determine the index, implies that the Jane Street Group may have attempted to steer the index closing value through targeted constituent-level trades.

**16.17.** The LTP analysis (pertaining to cash, stock futures and BANKNIFTY Index futures), capturing both order-level and trade-level dimensions, is placed in the following paragraphs for detailed reference.

16.18. In the cash market:

**Table 30 - Order level LTP-based analysis<sup>19</sup>**

Scrip	Sell order start time	Sell order end time	No. of sell orders entered	No. of sell orders above LTP	No. of sell orders at LTP	No. of sell orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCBANK	14:30:03	14:50:58	992	107	535	350	13.75	-	-45.40	-31.65
ICICIBANK	14:30:14	15:25:58	3132	410	1692	1030	51.20	-	-140.70	-89.50
AXISBANK	14:31:00	14:52:23	284	24	192	68	3.85	-	-9.05	-5.20
SBIN	14:30:18	15:24:14	1532	226	879	427	29.40	-	-30.20	-0.80
KOTAKBANK	14:30:12	15:26:59	1448	137	913	398	22.15	-	-75.40	-53.25
INDUSINDBK	14:30:54	14:56:39	225	20	139	66	4.30	-	-8.00	-3.70
AUBANK	14:42:25	15:19:44	3376	715	1803	858	52.35	-	-80.70	-28.35
PNB	14:30:21	15:27:14	4215	423	1411	2381	10.33	-	-72.34	-62.01

*\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.*

<sup>19</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

**Table 31 - Trade level LTP-based analysis**

Scrip	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>20</sup>
HDFCBANK	14:30:03	14:50:58	1392	107	936	349	13.90	-	-45.05	-31.15	32.45
ICICIBANK	14:30:14	15:25:58	4296	418	2852	1026	52.25	-	-139.30	-87.05	84.8
AXISBANK	14:31:00	14:52:23	399	24	306	69	3.90	-	-9.10	-5.20	1.6
SBIN	14:30:18	15:24:14	3005	884	1696	425	134.15	-	-30.05	104.10	-101.25
KOTAKBANK	14:30:12	15:27:17	2572	443	1718	411	82.15	-	-75.60	6.55	1.8
INDUSINDBK	14:30:54	14:56:39	356	20	270	66	4.40	-	-7.95	-3.55	6.55
AUBANK	14:42:25	15:19:44	4260	735	2652	873	56.15	-	-79.80	-23.65	20.8
PNB	14:30:21	15:27:14	9349	458	6453	2438	11.17	-	-72.31	-61.14	61

\*The figures are an aggregation of the difference between the "Trade Price" and the "Last Traded Price."

<sup>20</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.

16.19. In the stock futures market:

**Table 32 - Order level LTP-based analysis<sup>21</sup>**

Scrip	Expiry	Sell order start time	Sell order end time	No. of sell orders entered	No. of sell orders above LTP	No. of sell orders at LTP	No. of sell orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCBANK	25-Jul-24	14:30:14	15:27:12	1860	191	429	1240	19.80	-	-238.90	-219.10
ICICIBANK	25-Jul-24	14:30:05	15:27:14	1966	170	509	1287	16.20	-	-202.65	-186.45
AXISBANK	25-Jul-24	14:30:07	15:26:48	1580	144	357	1079	15.10	-	-213.05	-197.95
SBIN	25-Jul-24	14:30:00	15:27:14	1680	136	414	1130	9.90	-	-151.80	-141.90
KOTAKBANK	25-Jul-24	14:30:03	15:27:15	1140	154	173	813	22.50	-	-196.30	-173.80
INDUSINDBK	25-Jul-24	14:30:00	15:27:15	1006	88	150	768	10.85	-	-164.15	-153.30
FEDERALBNK	25-Jul-24	14:30:29	15:27:03	703	79	120	504	2.12	-	-21.72	-19.60
BANKBARODA	25-Jul-24	14:30:29	15:27:11	638	40	256	342	2.05	-	-27.30	-25.25
IDFCFIRSTB	25-Jul-24	14:31:17	15:27:14	522	39	186	297	0.54	-	-6.38	-5.84
AUBANK	25-Jul-24	14:30:15	15:27:15	701	70	158	473	6.15	-	-63.65	-57.50
PNB	25-Jul-24	14:30:39	15:27:09	541	57	104	380	1.39	-	-11.69	-10.30

*\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.*

<sup>21</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

**Table 33 - Trade level LTP-based analysis**

Scrip	Expiry	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>22</sup>
HDFCBANK	25-Jul-24	14:30:14	15:27:12	2752	198	1307	1247	20.55	-	-237.05	-216.50	219.55
ICICIBANK	25-Jul-24	14:30:05	15:27:14	2639	172	1183	1284	16.40	-	-200.30	-183.90	183.65
AXISBANK	25-Jul-24	14:30:07	15:26:48	2099	146	861	1092	15.45	-	-210.10	-194.65	192.35
SBIN	25-Jul-24	14:30:00	15:27:14	2759	140	1482	1137	10.10	-	-150.90	-140.80	143.7
KOTAKBANK	25-Jul-24	14:30:03	15:27:15	1395	157	410	828	23.30	-	-194.10	-170.80	176.85
INDUSINDBK	25-Jul-24	14:30:00	15:27:15	1227	92	363	772	11.40	-	-162.60	-151.20	157.45
FEDERALBNK	25-Jul-24	14:30:29	15:27:03	993	81	405	507	2.15	-	-21.47	-19.32	19.46
BANKBARODA	25-Jul-24	14:30:29	15:27:11	1233	41	845	347	2.10	-	-27.20	-25.10	25.65
IDFCFIRSTB	25-Jul-24	14:31:17	15:27:14	794	39	456	299	0.54	-	-6.35	-5.81	6.02
AUBANK	25-Jul-24	14:30:15	15:27:15	942	72	389	481	6.25	-	-62.50	-56.25	55.95
PNB	25-Jul-24	14:30:39	15:27:09	816	62	368	386	1.44	-	-11.56	-10.12	10.14

*\*The figures are an aggregation of the difference between the "Trade Price" and the "Last Traded Price"*

During this sell patch, the price impact in terms on the index after adjusting for weights of the constituents has been – 1,108.92 on the downside by JS entities and by all the other participants put together it was 1,182.71 on the upside, viz. indicative of strong downward price push created by JS entities.

<sup>22</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.

**16.20.** In the BANKNIFTY Index futures market:

**Table 34- Order level LTP-based analysis<sup>23</sup>**

Scrip	Expiry	Sell order start time	Sell order end time	No. of sell orders entered	No. of sell orders above LTP	No. of sell orders at LTP	No. of sell orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
BANKNIFTY	31-Jul-24	14:30:23	15:29:54	1856	366	331	1159	-2,273.25	427.00	-	-2,700.25

**Table 35 - Trade level LTP-based analysis**

Scrip	Expiry	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>24</sup>
BANKNIFTY	31-Jul-24	14:30:23	15:29:54	2526	383	952	1191	-2,200.55	443.95	-	-2,644.50	2673.05

<sup>23</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

<sup>24</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.

**16.21.** In this case, data indicates a clear pattern of aggressive selling below LTP by Jane Street Group across multiple heavy-weight stocks (in both cash and stock futures segment) in the BANKNIFTY index during the last 60 minutes of the session, notably from 14:30:00 onwards.

In stocks like ICICIBANK, HDFCBANK, SBIN, and AXISBANK, which carry substantial weight in the index, Jane Street was seen:

- Executing a disproportionately high number of marketable sell orders, often at prices lower than the last traded price, and
- Repeating this pattern across both the cash and futures segments, thereby magnifying the price impact.

For instance, (with respect to the aforementioned time segment i.e. 14:30:00 to 15:30:00):

In HDFCBANK (cash segment), Jane Street Group had executed approximately 92% of its total trades at prices below or at LTP, with a cumulative negative LTP impact of INR 45.05.

In HDFCBANK futures, Jane Street Group had executed approximately 93% of its total trades at prices below or at LTP, with a cumulative negative LTP impact of INR 237.05.

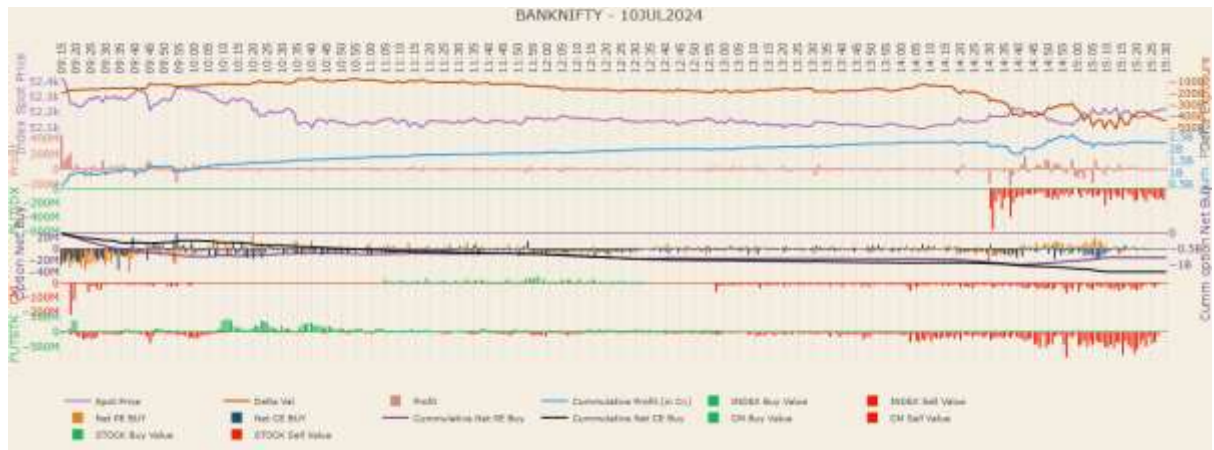
**16.22.** While significant focus has been placed on Jane Street Group's trading in BANKNIFTY constituent stocks (cash and stock futures), a parallel and equally important leg of the strategy was its execution in BANKNIFTY index futures. These trades, particularly during the final 60 minutes of trading on July 10, 2024, were executed well below the prevailing LTP and contributed directly to pushing down the index, thereby lowering the expiry settlement price, to favour their options position.

**16.23.** BANKNIFTY index futures are a highly liquid instrument, and trades in them can exert sentiment-driven influence on the index, especially when executed in large volumes near expiry. Moreover, futures prices tend to lead

or reinforce movements in the underlying index. Therefore, deploying index futures aggressively on the sell side becomes an effective tool to amplify pressure on the benchmark level, especially when used in tandem with selling in constituent stocks.

- 16.24.** Given the interrelationships, the combined effect of all these trades led to a sharp dip in the BANKNIFTY index, thereby pulling down its closing settlement value — the precise reference point used for the expiry of BANKNIFTY options.
- 16.25.** Importantly, this LTP-impacting behaviour was not visible earlier in the day, where the Group's trades were either marginal or non-influential in terms of LTP. The sudden emergence of directional, high-intensity sell-side activity in the final minutes to settlement points to a deliberate strategy intended to manipulate the closing price of the index, rather than to meet genuine liquidity or hedging objectives.
- 16.26.** While the LTP analysis captures how Jane Street Group impacted prices in the underlying segment, it is equally important to understand why i.e., what positions they were trying to benefit. This necessitates examining the Jane Street Group's options activity, specifically the rise of its delta exposure in BANKNIFTY options.
- 16.27.** Data suggests that Jane Street Group maintained a relatively neutral delta position throughout most of the trading session, with no strong directional bias in either Calls or Puts. However, as it began to aggressively sell in the cash and futures segments of BANKNIFTY constituents, a corresponding build-up in negative delta was observed, indicating a bearish stance through either long Put or short Call positions.
- 16.28.** Graphical analysis of trading and delta build-up for July 10, 2024 is placed below:





**16.29.** The graph above can be accessed through QR code given below:



**16.30.** On July 10, 2024, Jane Street Group's delta profile exhibited a distinct two-phase structure:

**Phase 1: Passive/Neutral Delta Throughout the Day (09:15 to ~14:45)**

For most of the trading session, the Group's delta exposure remained largely neutral, suggesting a non-directional or low-risk stance in BANKNIFTY options.

### **Phase 2: Sharp Build-Up in Negative Delta in Final 45–60 Minutes**

Starting around 2:45 PM, coinciding precisely with the period when Jane Street Group began executing aggressive sell orders in BANKNIFTY index futures and constituent stocks, a sharp transition in delta was observed.

The Group accumulated significant negative delta exposure, predominantly through:

- Buying Put options (which carry negative delta), and
- Selling Call options (which also result in net negative delta).

This directional bet aligns seamlessly with Jane Street Group's simultaneous activity in the underlying segment, where trades were placed at or below LTP in heavy-weight BANKNIFTY constituents, thereby reinforcing the bearish outlook.

**16.31.** The net negative delta exposure increased from INR 27,225.22 Cr at 14:30 to INR 44,153.87 Cr by market close. This INR 16,928.64 Cr shift in net delta took place within an hour, sharply contrasting with the stability seen earlier in the day. The timing of this delta shift was not coincidental. It perfectly overlapped with:

- The initiation of aggressive sell-side trades in stocks and futures to the tune of INR 2,800 crores across segments,
- A sharp decline in the BANKNIFTY index, and
- The lead-up to expiry-time index settlement, which directly determines options settlement and payoff.

**16.32.** In summary, prima facie, JS Group undertook premeditated large and aggressive selling of INR 2,800 crores worth of BANKNIFTY constituent and related stocks and futures, to engineer a soft closing of BANKNIFTY on that expiry day, thereby helping them enjoy a benefit on the INR 44,153.87 crores

of effective cash-equivalent short positions that JS Group held in BANKNIFTY index options expiring the same day.

- 16.33.** On July 10, 2024, the Group's GTV witnessed a spike similar to that of January 17, 2024, with total traded value being approximately 4 times that of the previous and 1.5 times that of the next day

**Table 36**

Day	Dates	GTV in INR Crores			
		Cash (A)	Stock Futures (B)	BANKNIFTY Index Futures (C)	Total GTV (A)+(B)+(C)
		(12 Constituents)	(12 Constituents)		
T-1	09-Jul-24	103.20	1,589.81	-	1,693.01
T	10-Jul-24	487.99	5,099.03	735.86	6,322.88
T+1	11-Jul-24	150.15	3,901.53	-	4,051.68

However, unlike January 17, the concentration of volumes was tightly clustered near market close, particularly between 14:30 and 15:30, reinforcing the *prima facie* conclusion of a single-patch expiry-close marking-the-close manipulation.

The steep fall (across segments) in activity on T+1 again indicates the expiry-centric nature of the activity.

- 16.34.** The same pattern of 'extended marking the close' characterised by concentrated end-of-day activity in cash, stock futures, and index futures segments, coupled with aligned options positioning—was observed on 2 other Bank Nifty expiry days. The details of the other 2 days, in terms of an overall graphical representation of the JS Group activity, and tables detailing the quantum of their intervention in cash and futures markets during relevant patches around index expiry (including as a percentage of Gross Traded Volume), the level of aggression of their intervention (as evidenced by order and trade LTP), and their trading activity and cash-equivalent positions in the index options segment are presented in Annexure 3.

- 16.35.** The day-wise profits for the 3 days wherein the aforesaid "Extended Marking the Close" strategy was employed by JS Group has been recorded in

**Table 44** of this Order. The total profit made by the JS Group in BANKNIFTY index options across the 3 days was INR 560 crores.

**16.36.** It is important to note, however, that this examination has so far been limited to select high-profit expiry days in the Bank Nifty index. There may exist similar patterns in other indices or trading behaviours reflecting alternate strategies which have not yet been analysed. Accordingly, many more trading days may merit detailed investigation to assess the full scope and recurrence of such conduct.

## **F. CONTINUING VIOLATION & DISREGARD FOR REGULATORY CAUTION**

### **17. Recent instance of extended marking-the-close (as observed on May 15, 2025 - being weekly expiry of NIFTY option contracts)**

**17.1.** As indicated earlier, as advised by SEBI, on February 6, 2025, the National Stock Exchange ("**NSE**") issued a cautionary letter to Jane Street Singapore Pte Limited and its related entity, Jane Street Group Investments Pvt Ltd. The letter noted that the Group had been consistently engaging in trading patterns that raised serious concerns over market integrity, particularly around the expiry of index derivatives.

Relevant excerpts from the communication are reproduced below:

*"It was observed that you along with your related entity, Jane Street Group/ Investments Pvt Ltd, were running abnormally high delta positions in the index derivatives segment and correspondingly small net sentimental OI. Such large directional OI (delta) can cause risk to market stability and raises concern for market integrity especially around expiry of contracts wherein your related entity has traded in cash market to favour large open positions in options.*

***Such trading activity, prima-facie, raises concerns for market integrity on account of large delta positions in index derivatives, combined with concurrent act of taking and then reducing positions in the top constituents of the index through cash market / derivatives over a short period, to artificially influence the price of the index. It also creates an***

*information asymmetry for other investors / traders in those constituents or derivatives contracts on index, who are not aware about such artifice and repeated occurrences of such instances cannot be considered as coincidence.*

***The above trading activity prima facie appears to be fraudulent and manipulative in terms of dealing in top constituents of index in cash market / futures segment and taking relatively large size contra position in options expiring on that day on the same index. In this connection, it is advised to exercise caution and refrain from taking large open positions (delta). It is further advised to refrain from aforementioned trading pattern and unwind such positions in a non-disruptive manner and report on a daily basis to us till further notice.”***

*(emphasis supplied)*

**17.2.** Despite the said letter, JS group has been seen to be running very large net cash-equivalent positions in Index Options. Disturbingly, on days such as on May 15, 2025 (an expiry day for NIFTY weekly options), JS group was seen not only running very large effective cash-equivalent long positions via NIFTY index options, it was also seen to be intervening heavily in NIFTY futures and NIFTY constituent stock futures at close to expiry.

**17.3.** The timing, scale, and construction of Jane Street Group’s positions and the trading on May 15, 2025, suggest that it continued deploying a weekly expiry-centric extended marking-the-close strategy even after all the regulatory red flags that had been shown prominently to them.

**17.4.** While the trading activity of Jane Street Group on May 15, 2025, an expiry day for weekly NIFTY index options, bears a structural resemblance to the strategy observed on July 10, 2024, there is a directional distinction. While July 10 involved a bearish “extended marking the close” strategy (and the trading activity of JS Group pushed the index pushed downward at close), the pattern on May 15 suggests a bullish variant, where Jane Street Group

undertook trades in NIFTY and constituent futures to push the NIFTY index upward during the final 116 minutes of trading.

**Table 37 - Tabular Flowchart – Intraday Strategy Executed by Jane Street Group**

<b>Time Segment</b>	<b>Observed Activity</b>	<b>Market Segment</b>
09:15 – 13:26	Non-directional or passive trading	All segments
13:26 – 15:25	Accumulation/ holding of long Calls and short Puts, resulting in large effective long cash equivalent positions in NIFTY Options	NIFTY Options
13:26 – 15:25	Aggressive and relatively large scale buying in NIFTY index and constituent stock futures at or above LTP	NIFTY Futures + Stock Futures
15:30 Close	NIFTY closes at a higher level	Index
Post-Market	Profit realised on even larger bullish options positions	Options

**17.5.** During the patch 13:26:00 to 15:30:00, Jane Street Group significantly bought positions in NIFTY constituent stocks in stock futures segment. Further, significant buy activity was also observed in NIFTY Index futures. The relevant data has been captured in succeeding paragraphs.

**17.6.** In the stock futures market:

**Table 38**

Scrip	Expiry	Buy start time	Buy end time	Open	High	Low	Close	No. of buy trades - Jane Street Group	Buy trade quantity - Jane Street Group	Buy side TV in INR Crs. – Jane Street Group (A)	No. of buy trades – Market-wide	Buy trade quantity – Market-wide	Buy side TV in INR Crs. – Market-wide (B)	Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)
ADANIENT	29-May-25	13:36:00	15:29:39	2,508.50	2,530.90	2,506.60	2,526.00	377	1,73,400	43.72	2,801	10,41,600	262.47	16.66%
ADANIPTS	29-May-25	13:26:09	15:29:52	1,398.40	1,411.60	1,396.60	1,402.70	669	4,20,800	59.16	4,673	23,30,000	327.53	18.06%
APOLLOHOSP	29-May-25	13:35:51	15:27:00	7,000.00	7,110.50	7,000.00	7,109.00	357	62,750	44.33	2,350	3,32,375	234.84	18.87%
ASIANPAINT	29-May-25	13:26:09	15:25:40	2,312.60	2,334.00	2,312.10	2,331.50	852	2,45,200	57.02	5,103	12,41,800	288.56	19.76%
AXISBANK	29-May-25	13:26:22	15:29:34	1,208.00	1,218.90	1,207.50	1,210.60	1,140	11,20,000	135.78	6,893	50,96,250	617.82	21.98%
BAJAJ-AUTO	29-May-25	13:26:57	15:26:09	8,225.00	8,395.00	8,220.50	8,352.00	508	68,850	57.41	4,352	4,35,225	362.55	15.83%
BAJAJFINSV	29-May-25	13:26:13	15:27:00	2,035.70	2,058.00	2,033.90	2,052.10	419	2,80,000	57.43	2,359	13,02,000	266.97	21.51%
BAJFINANCE	29-May-25	13:26:13	15:25:44	9,159.50	9,239.00	9,148.00	9,220.00	709	1,30,750	120.49	4,389	6,62,625	610.18	19.75%
BEL	29-May-25	13:26:09	15:29:23	348.40	351.90	348.00	350.65	448	21,46,050	75.22	4,564	1,59,08,700	557.27	13.50%
BHARTIARTL	29-May-25	13:26:08	15:25:37	1,851.20	1,871.30	1,850.00	1,871.00	1,548	10,60,200	197.64	8,577	45,92,775	855.97	23.09%
CIPLA	29-May-25	13:26:44	15:24:58	1,492.70	1,518.30	1,492.20	1,507.70	664	2,79,825	42.21	3,722	13,73,125	207.04	20.39%
COALINDIA	29-May-25	13:26:15	15:25:30	403.30	407.55	402.90	404.95	671	11,77,050	47.80	3,936	52,99,350	215.13	22.22%
DRREDDY	29-May-25	13:26:30	15:28:57	1,222.70	1,236.50	1,222.50	1,230.30	352	3,29,375	40.59	2,453	17,34,375	213.59	19.00%
EICHERMOT	29-May-25	13:26:42	15:26:09	5,479.00	5,563.50	5,443.00	5,495.00	384	96,775	53.38	4,721	9,16,475	505.29	10.57%
ETERNAL	29-May-25	13:26:10	15:26:10	240.67	246.10	240.00	242.59	1,185	38,24,000	93.09	7,919	1,98,68,000	483.45	19.26%
GRASIM	29-May-25	13:26:45	15:25:25	2,777.00	2,832.90	2,776.10	2,825.30	424	2,07,500	58.49	3,549	10,95,750	308.62	18.95%
HCLTECH	29-May-25	13:26:06	15:29:49	1,680.50	1,704.70	1,680.00	1,692.40	971	6,14,600	104.34	9,337	38,09,400	646.16	16.15%
HDFCBANK	29-May-25	13:26:09	15:29:34	1,931.00	1,947.10	1,930.80	1,938.20	2,624	21,14,200	410.27	14,187	93,19,750	1,808.43	22.69%
HDFCLIFE	29-May-25	13:26:06	15:29:00	747.10	754.30	746.45	751.40	334	5,41,200	40.71	2,324	29,17,200	219.29	18.56%
HEROMOTOCO	29-May-25	13:35:59	15:25:38	4,294.00	4,324.40	4,284.70	4,321.70	375	83,400	35.96	5,980	10,53,450	454.25	7.92%
HINDALCO	29-May-25	13:26:15	15:25:53	659.90	664.40	659.05	661.00	326	8,35,800	55.35	3,709	61,64,200	408.14	13.56%

Scrip	Expiry	Buy start time	Buy end time	Open	High	Low	Close	No. of buy trades - Jane Street Group	Buy trade quantity - Jane Street Group	Buy side TV in INR Crs. – Jane Street Group (A)	No. of buy trades – Market-wide	Buy trade quantity – Market-wide	Buy side TV in INR Crs. – Market-wide (B)	Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)
HINDUNILVR	29-May-25	13:26:06	15:29:33	2,363.30	2,377.00	2,361.60	2,364.00	717	2,93,700	69.54	3,731	12,73,800	301.59	23.06%
ICICIBANK	29-May-25	13:26:06	15:28:44	1,442.00	1,458.20	1,441.50	1,453.50	2,466	28,58,100	415.21	15,873	1,32,04,800	1,917.42	21.65%
INDUSINDBK	29-May-25	13:51:20	15:25:31	780.20	783.30	777.20	780.95	340	2,77,500	21.66	4,206	25,79,500	201.26	10.76%
INFY	29-May-25	13:26:10	15:27:16	1,598.40	1,620.60	1,596.90	1,612.50	2,085	15,25,200	246.10	13,958	69,30,800	1,117.61	22.02%
ITC	29-May-25	13:26:06	15:29:53	431.15	434.30	430.75	432.30	812	20,75,200	89.79	4,965	96,57,600	417.80	21.49%
JIOFIN	29-May-25	13:26:36	15:25:51	271.00	274.70	271.00	274.25	527	14,48,700	39.57	3,882	78,45,750	214.33	18.46%
JSWSTEEL	29-May-25	13:26:40	15:26:05	1,025.70	1,041.50	1,025.70	1,039.50	496	5,62,950	58.36	3,653	29,56,500	306.34	19.05%
KOTAKBANK	29-May-25	13:26:10	15:25:49	2,094.10	2,114.20	2,093.50	2,107.20	908	5,40,000	113.85	5,268	24,05,200	506.98	22.46%
LT	29-May-25	13:26:40	15:29:46	3,605.60	3,654.90	3,603.80	3,622.00	1,824	4,51,350	164.06	10,532	20,08,800	730.03	22.47%
M&M	29-May-25	13:26:06	15:28:23	3,139.00	3,179.30	3,136.90	3,140.00	1,137	3,09,575	97.87	6,977	15,62,925	493.78	19.82%
MARUTI	29-May-25	13:26:06	15:29:53	12,791.00	12,967.00	12,787.00	12,877.00	871	77,750	100.45	7,359	4,50,600	581.47	17.28%
NESTLEIND	29-May-25	13:26:10	15:25:37	2,390.90	2,409.00	2,389.70	2,397.20	406	1,30,800	31.38	2,585	5,99,000	143.70	21.83%
NTPC	29-May-25	13:26:31	15:29:07	338.00	344.85	338.00	342.60	809	20,14,500	69.07	5,280	94,12,500	322.40	21.42%
ONGC	29-May-25	13:26:09	15:26:03	246.58	249.20	246.36	247.74	622	19,69,275	48.83	3,632	83,87,225	207.91	23.49%
POWERGRID	29-May-25	13:26:27	15:26:04	295.70	301.40	295.70	299.95	664	20,08,800	60.25	4,410	96,13,800	288.05	20.92%
RELIANCE	29-May-25	13:26:09	15:27:26	1,438.30	1,463.10	1,437.80	1,456.60	3,665	31,75,500	461.80	23,145	1,44,91,000	2,106.19	21.93%
SBILIFE	29-May-25	13:26:15	15:25:27	1,771.90	1,790.20	1,771.50	1,783.40	388	2,24,625	40.10	2,615	10,95,750	195.50	20.51%
SBIN	29-May-25	13:26:40	15:29:49	788.80	796.90	787.90	794.90	1,716	25,59,000	202.73	14,171	1,46,65,500	1,162.26	17.44%
SHRIRAMFIN	29-May-25	13:26:30	15:25:56	671.65	680.85	671.25	675.55	559	6,96,000	47.08	4,504	40,38,000	273.01	17.24%
SUNPHARMA	29-May-25	13:26:06	15:25:49	1,721.50	1,746.10	1,720.20	1,743.00	1,027	5,44,250	94.67	6,118	25,46,600	442.68	21.39%
TATACONSUM	29-May-25	13:26:35	15:29:45	1,141.10	1,154.90	1,140.70	1,143.50	388	2,71,776	31.22	2,482	12,82,272	147.24	21.20%
TATAMOTORS	29-May-25	13:26:34	15:17:40	726.75	731.15	725.05	731.05	1,114	10,23,550	74.49	10,802	74,58,000	543.04	13.72%
TATASTEEL	29-May-25	13:26:22	15:25:28	157.15	158.03	157.12	157.48	501	46,36,500	73.07	4,040	2,80,55,500	442.00	16.53%
TCS	29-May-25	13:26:06	15:29:34	3,568.00	3,604.40	3,564.20	3,585.80	1,283	3,75,900	134.98	7,709	16,81,400	603.60	22.36%



Scrip	Expiry	Buy start time	Buy end time	Open	High	Low	Close	No. of buy trades - Jane Street Group	Buy trade quantity - Jane Street Group	Buy side TV in INR Crs. – Jane Street Group (A)	No. of buy trades – Market-wide	Buy trade quantity – Market-wide	Buy side TV in INR Crs. – Market-wide (B)	Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)
TECHM	29-May-25	13:26:24	15:23:15	1,627.30	1,638.10	1,624.00	1,630.10	410	3,78,600	61.84	2,566	17,52,000	286.05	21.62%
TITAN	29-May-25	13:26:09	15:29:22	3,633.10	3,669.00	3,606.00	3,632.00	542	1,48,050	54.15	4,191	8,28,100	302.58	17.90%
TRENT	29-May-25	13:26:10	15:25:48	5,478.00	5,652.00	5,475.50	5,588.00	827	1,33,300	74.28	9,731	12,05,500	672.19	11.05%
ULTRACEMCO	29-May-25	13:26:10	15:25:27	11,859.00	11,949.00	11,839.00	11,915.00	536	50,200	59.82	3,753	2,32,800	277.30	21.57%
WIPRO	29-May-25	13:35:52	15:25:34	255.19	257.74	255.19	256.80	385	17,28,000	44.36	2,442	86,16,000	221.15	20.06%

**17.7.** In the NIFTY Index futures market:

**Table 39**

<b>Scrip</b>	<b>Expiry</b>	<b>Buy start time</b>	<b>Buy end time</b>	<b>Open</b>	<b>High</b>	<b>Low</b>	<b>Close</b>	<b>No. of buy trades - Jane Street Group</b>	<b>Buy trade quantity - Jane Street Group</b>	<b>Buy side TV in INR Crs. – Jane Street Group (A)</b>	<b>No. of buy trades – Market-wide</b>	<b>Buy trade quantity – Market-wide</b>	<b>Buy side TV in INR Crs. – Market-wide (B)</b>	<b>Jane Street Group's traded value relative to market-wide traded value (in %) (A/B)</b>
NIFTY	29-May-25	13:44:26	15:05:35	25,010.00	25,144.90	25,002.00	25,101.00	5,213	9,98,100	2,505.28	32,112	40,09,200	10,062.88	24.90%

**17.8.** An analysis of the Traded Value of Jane Street Group on May 15, 2025, reveals a pattern of highly concentrated activity during the final hours of trading, particularly in the futures segment of NIFTY constituent stocks. This pattern closely resembles a bullish expiry-day strategy, wherein the participant aggressively builds directional exposure in the latter half of the session to influence the index value at settlement.

**17.9.** Between 13:26:00 and 15:30:00, the Group's stock futures trades surged to a total of INR 4,910.96 Cr, representing a disproportionately large share of the market-wide traded value in several key NIFTY stocks.

Key data points from this patch include:

- HDFCBANK (Futures): INR 410.27 Cr, constituting 22.69% of market-wide traded value
- ICICIBANK (Futures): INR 415.21 Cr (21.65%)
- RELIANCE (Futures): INR 461.80 Cr (21.93%)
- INFY (Futures): INR 246.10 Cr (22.02%)
- BHARTIARTL (Futures): INR 197.64 Cr (23.09%)

**17.10.** This spike in directional trading volume during the expiry-critical patch not only reflects an abnormal deviation from typical intraday volume curves, but also raises strong suspicion that the activity was designed to exert influence on index settlement, especially given its temporal alignment with Jane Street's even larger derivative positions in expiring NIFTY options.

**17.11.** While the aforementioned data reveals where and when Jane Street concentrated its trading efforts, it is equally important to evaluate how these trades impacted market prices. Specifically, the placement of trades at, above, or below prevailing Last Traded Prices (LTP) determines whether the activity had a price-driving effect, thereby altering the index level itself.

**17.12.** Following the identification of high-volume, expiry-window trading activity by Jane Street Group across NIFTY constituents, it becomes imperative to assess the price impact of such trades. For this purpose, an LTP-

based analysis was undertaken to evaluate whether Jane Street's trades exerted a directional influence on market prices, particularly in the expiry-determining window.

**17.13.** In the NIFTY constituent stock futures market:

**Table 40- Order level LTP-based analysis<sup>25</sup>**

Scrip	Expiry	Buy order start time	Buy order end time	No. of buy orders entered	No. of buy orders above LTP	No. of buy orders at LTP	No. of buy orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
ADANIENT	29-May-25	13:36:00	15:29:39	204	95	94	15	50.80	-	-7.00	43.80
ADANIPTS	29-May-25	13:26:09	15:29:37	341	127	191	23	37.20	-	-10.20	27.00
APOLLOHOSP	29-May-25	13:35:51	15:27:00	194	81	98	15	144.50	-	-12.50	132.00
ASIANPAINT	29-May-25	13:26:09	15:25:40	491	188	246	57	69.20	-	-13.30	55.90
AXISBANK	29-May-25	13:26:22	15:29:34	553	157	284	112	38.70	-	-25.70	13.00
BAJAJ-AUTO	29-May-25	13:26:57	15:26:09	296	117	154	25	184.50	-	-38.00	146.50
BAJAJFINSV	29-May-25	13:26:13	15:27:00	225	92	86	47	46.10	-	-24.40	21.70
BAJFINANCE	29-May-25	13:26:13	15:25:43	360	127	158	75	203.00	-	-118.00	85.00
BEL	29-May-25	13:26:09	15:29:21	183	64	108	11	5.70	-	-0.95	4.75
BHARTIARTL	29-May-25	13:26:08	15:25:37	703	179	341	183	38.00	-	-48.60	-10.60
CIPLA	29-May-25	13:26:44	15:24:51	331	112	193	26	37.40	-	-4.60	32.80
COALINDIA	29-May-25	13:26:15	15:25:25	278	90	167	21	7.75	-	-1.35	6.40
DRREDDY	29-May-25	13:26:17	15:28:55	192	81	101	10	25.40	-	-2.10	23.30
EICHERMOT	29-May-25	13:26:42	15:26:08	182	74	85	23	136.00	-	-197.50	-61.50
ETERNAL	29-May-25	13:26:10	15:26:07	635	271	248	116	15.29	-	-5.27	10.02
GRASIM	29-May-25	13:26:45	15:25:25	276	114	148	14	72.10	-	-11.40	60.70
HCLTECH	29-May-25	13:26:06	15:29:49	504	185	281	38	48.20	-	-8.50	39.70
HDFCBANK	29-May-25	13:26:09	15:29:34	1212	402	610	200	88.40	-	-48.50	39.90

<sup>25</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

Scrip	Expiry	Buy order start time	Buy order end time	No. of buy orders entered	No. of buy orders above LTP	No. of buy orders at LTP	No. of buy orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
HDFCLIFE	29-May-25	13:26:06	15:29:00	168	67	89	12	10.95	-	-1.30	9.65
HEROMOTOCO	29-May-25	13:35:59	15:25:38	178	72	90	16	41.10	-	-6.50	34.60
HINDALCO	29-May-25	13:26:15	15:25:53	181	78	85	18	12.85	-	-2.80	10.05
HINDUNILVR	29-May-25	13:26:06	15:29:31	320	128	173	19	50.00	-	-4.70	45.30
ICICIBANK	29-May-25	13:26:06	15:28:44	987	270	637	80	43.80	-	-10.90	32.90
INDUSINDBK	29-May-25	13:51:20	15:25:31	188	64	100	24	9.85	-	-2.20	7.65
INFY	29-May-25	13:26:10	15:27:16	995	347	571	77	72.30	-	-15.80	56.50
ITC	29-May-25	13:26:06	15:29:47	329	116	188	25	11.45	-	-1.60	9.85
JIOFIN	29-May-25	13:26:36	15:25:44	217	56	147	14	4.95	-	-0.75	4.20
JSWSTEEL	29-May-25	13:26:40	15:26:01	267	95	153	19	24.00	-	-3.20	20.80
KOTAKBANK	29-May-25	13:26:10	15:25:49	449	181	231	37	61.70	-	-8.90	52.80
LT	29-May-25	13:26:40	15:29:46	951	398	489	64	210.40	-	-21.90	188.50
M&M	29-May-25	13:26:06	15:28:23	593	241	287	65	94.30	-	-40.40	53.90
MARUTI	29-May-25	13:26:06	15:29:53	392	102	240	50	233.00	-	-120.00	113.00
NESTLEIND	29-May-25	13:26:10	15:25:37	236	109	104	23	46.30	-	-7.80	38.50
NTPC	29-May-25	13:26:31	15:29:07	327	105	198	24	9.55	-	-1.65	7.90
ONGC	29-May-25	13:26:09	15:26:01	343	142	178	23	5.44	-	-0.78	4.66
POWERGRID	29-May-25	13:26:27	15:26:04	328	100	200	28	8.40	-	-2.20	6.20
RELIANCE	29-May-25	13:26:09	15:27:26	1183	363	728	92	56.90	-	-13.90	43.00
SBILIFE	29-May-25	13:26:15	15:25:27	226	82	124	20	26.20	-	-6.30	19.90
SBIN	29-May-25	13:26:40	15:29:49	822	266	491	65	32.35	-	-5.20	27.15
SHRIRAMFIN	29-May-25	13:26:30	15:25:54	321	110	194	17	18.15	-	-1.95	16.20
SUNPHARMA	29-May-25	13:26:06	15:25:47	498	220	242	36	57.70	-	-7.30	50.40
TATACONSUM	29-May-25	13:26:35	15:29:45	220	86	124	10	23.90	-	-2.90	21.00
TATAMOTORS	29-May-25	13:26:32	15:17:40	454	155	264	35	15.30	-	-3.30	12.00
TATASTEEL	29-May-25	13:26:22	15:25:28	307	126	157	24	4.09	-	-0.69	3.40

Scrip	Expiry	Buy order start time	Buy order end time	No. of buy orders entered	No. of buy orders above LTP	No. of buy orders at LTP	No. of buy orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
TCS	29-May-25	13:26:06	15:29:34	696	290	351	55	167.40	-	-20.50	146.90
TECHM	29-May-25	13:26:24	15:23:15	257	110	124	23	38.20	-	-4.10	34.10
TITAN	29-May-25	13:26:09	15:29:21	328	115	168	45	66.90	-	-66.80	0.10
TRENT	29-May-25	13:26:10	15:25:48	404	136	232	36	176.50	-	-39.00	137.50
ULTRACEMCO	29-May-25	13:26:10	15:25:27	258	77	157	24	205.00	-	-43.00	162.00
WIPRO	29-May-25	13:35:52	15:25:33	241	112	107	22	5.75	-	-0.52	5.23

*\*The figures are an aggregation of the difference between the "Order Limit Price" and the "Last Traded Price" at the time of order entry/ modification.*

**Table 41 - Trade level LTP-based analysis**

Scrip	Expiry	Buy trade start time	Buy trade end time	No. of buy trades executed	No. of buy trades above LTP	No. of buy trades at LTP	No. of buy trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>26</sup>
ADANIENT	29-May-25	13:36:00	15:29:39	377	99	242	36	50.30	-	-9.90	40.40	-22.9
ADANIPTS	29-May-25	13:26:09	15:29:52	669	131	495	43	36.90	-	-9.60	27.30	-23
APOLLOHOSP	29-May-25	13:35:51	15:27:00	357	79	256	22	138.00	-	-18.50	119.50	-10.5
ASIANPAINT	29-May-25	13:26:09	15:25:40	852	185	566	101	67.10	-	-23.60	43.50	-24.6
AXISBANK	29-May-25	13:26:22	15:29:34	1140	148	803	189	36.20	-	-36.90	-0.70	3.3
BAJAJ-AUTO	29-May-25	13:26:57	15:26:09	508	119	334	55	186.50	-	-95.00	91.50	35.5
BAJAJFINSV	29-May-25	13:26:13	15:27:00	419	84	268	67	41.40	-	-24.50	16.90	-0.5
BAJFINANCE	29-May-25	13:26:13	15:25:44	709	117	470	122	190.00	-	-168.00	22.00	38.5
BEL	29-May-25	13:26:09	15:29:23	448	62	341	45	5.60	-	-3.90	1.70	0.55
BHARTIARTL	29-May-25	13:26:08	15:25:37	1548	166	1103	279	35.60	-	-63.60	-28.00	47.8
CIPLA	29-May-25	13:26:44	15:24:58	664	115	494	55	37.30	-	-10.30	27.00	-12
COALINDIA	29-May-25	13:26:15	15:25:30	671	88	524	59	7.55	-	-4.20	3.35	-1.7
DRREDDY	29-May-25	13:26:30	15:28:57	352	80	239	33	25.00	-	-8.70	16.30	-8.7
EICHERMOT	29-May-25	13:26:42	15:26:09	384	76	262	46	135.50	-	-66.50	69.00	-53
ETERNAL	29-May-25	13:26:10	15:26:10	1185	266	715	204	13.70	-	-5.96	7.74	-5.82
GRASIM	29-May-25	13:26:45	15:25:25	424	113	262	49	71.70	-	-19.90	51.80	-3.5
HCLTECH	29-May-25	13:26:06	15:29:49	971	183	702	86	47.50	-	-18.50	29.00	-17.1
HDFCBANK	29-May-25	13:26:09	15:29:34	2624	386	1927	311	83.40	-	-66.80	16.60	-9.4
HDFCLIFE	29-May-25	13:26:06	15:29:00	334	67	245	22	10.60	-	-2.40	8.20	-3.9
HEROMOTOC O	29-May-25	13:35:59	15:25:38	375	73	265	37	41.20	-	-14.60	26.60	1.1
HINDALCO	29-May-25	13:26:15	15:25:53	326	78	215	33	12.85	-	-4.75	8.10	-7
HINDUNILVR	29-May-25	13:26:06	15:29:33	717	129	525	63	49.80	-	-14.50	35.30	-34.6

<sup>26</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.



Scrip	Expiry	Buy trade start time	Buy trade end time	No. of buy trades executed	No. of buy trades above LTP	No. of buy trades at LTP	No. of buy trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>26</sup>
ICICIBANK	29-May-25	13:26:06	15:28:44	2466	270	1920	276	43.70	-	-40.90	2.80	8.7
INDUSINDBK	29-May-25	13:51:20	15:25:31	340	67	223	50	9.60	-	-5.15	4.45	-3.7
INFY	29-May-25	13:26:10	15:27:16	2085	346	1510	229	71.00	-	-42.70	28.30	-14.2
ITC	29-May-25	13:26:06	15:29:53	812	116	601	95	11.40	-	-7.30	4.10	-2.95
JIOFIN	29-May-25	13:26:36	15:25:51	527	57	430	40	4.95	-	-2.70	2.25	1
JSWSTEEL	29-May-25	13:26:40	15:26:05	496	97	348	51	23.80	-	-10.70	13.10	0.7
KOTAKBANK	29-May-25	13:26:10	15:25:49	908	185	600	123	60.60	-	-29.60	31.00	-17.9
LT	29-May-25	13:26:40	15:29:46	1824	401	1243	180	207.00	-	-64.40	142.60	-126.2
M&M	29-May-25	13:26:06	15:28:23	1137	240	760	137	92.60	-	-45.60	47.00	-46
MARUTI	29-May-25	13:26:06	15:29:53	871	104	659	108	233.00	-	-186.00	47.00	39
NESTLEIND	29-May-25	13:26:10	15:25:37	406	112	256	38	45.10	-	-12.70	32.40	-26.1
NTPC	29-May-25	13:26:31	15:29:07	809	106	638	65	9.55	-	-4.50	5.05	-0.45
ONGC	29-May-25	13:26:09	15:26:03	622	143	431	48	5.38	-	-1.46	3.92	-2.76
POWERGRID	29-May-25	13:26:27	15:26:04	664	100	487	77	8.40	-	-5.85	2.55	1.7
RELIANCE	29-May-25	13:26:09	15:27:26	3665	360	2961	344	56.00	-	-53.10	2.90	15.4
SBILIFE	29-May-25	13:26:15	15:25:27	388	82	269	37	26.00	-	-14.80	11.20	0.3
SBIN	29-May-25	13:26:40	15:29:49	1716	269	1256	191	32.10	-	-17.65	14.45	-8.35
SHRIRAMFIN	29-May-25	13:26:30	15:25:56	559	108	397	54	17.75	-	-6.60	11.15	-7.25
SUNPHARMA	29-May-25	13:26:06	15:25:49	1027	221	730	76	56.90	-	-14.80	42.10	-20.6
TATACONSUM	29-May-25	13:26:35	15:29:45	388	83	282	23	23.60	-	-5.20	18.40	-16
TATAMOTORS	29-May-25	13:26:34	15:17:40	1114	157	840	117	15.35	-	-10.65	4.70	-0.4
TATASTEEL	29-May-25	13:26:22	15:25:28	501	125	328	48	3.99	-	-1.23	2.76	-2.43
TCS	29-May-25	13:26:06	15:29:34	1283	293	849	141	165.20	-	-50.30	114.90	-97.1
TECHM	29-May-25	13:26:24	15:23:15	410	110	253	47	37.20	-	-9.80	27.40	-24.6
TITAN	29-May-25	13:26:09	15:29:22	542	113	347	82	63.60	-	-39.60	24.00	-25.1
TRENT	29-May-25	13:26:10	15:25:48	827	137	590	100	168.50	-	-90.50	78.00	32

Scrip	Expiry	Buy trade start time	Buy trade end time	No. of buy trades executed	No. of buy trades above LTP	No. of buy trades at LTP	No. of buy trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>26</sup>
ULTRACEMCO	29-May-25	13:26:10	15:25:27	536	79	400	57	204.00	-	-124.00	80.00	-24
WIPRO	29-May-25	13:35:52	15:25:34	385	112	238	35	5.73	-	-0.94	4.79	-3.18

\*The figures are an aggregation of the difference between the "Trade Price" and the "Last Traded Price"

**17.14.** In the NIFTY Index futures market:

**Table 42 - Order level LTP-based analysis<sup>27</sup>**

Scrip	Expiry	Buy order start time	Buy order end time	No. of buy orders entered	No. of buy orders above LTP	No. of buy orders at LTP	No. of buy orders below LTP	Order price based LTP impact for orders placed above LTP* (in INR) (A)	Order price based LTP impact for orders placed at LTP* (in INR) (B)	Order price based LTP impact for orders placed below LTP* (in INR) (C)	Order price based net LTP impact* (in INR) (A)+(B)+(C)
NIFTY	29-May-25	13:44:26	15:05:35	1926	669	1102	155	1,580.50	-	-289.30	1,291.20

**Table 43 - Trade level LTP-based analysis**

Scrip	Expiry	Sell trade start time	Sell trade end time	No. of sell trades executed	No. of sell trades above LTP	No. of sell trades at LTP	No. of sell trades below LTP	Trade price based LTP impact for trades executed above LTP* (in INR) (A)	Trade price based LTP impact for trades executed at LTP* (in INR) (B)	Trade price based LTP impact for trades executed below LTP* (in INR) (C)	Trade price based net LTP impact* (in INR) (A)+(B)+(C)	Trade price based net LTP impact created by rest of the market participants <sup>28</sup>
NIFTY	29-May-25	13:44:26	15:05:35	5213	680	3742	791	1,578.00	-	-1,239.80	338.20	

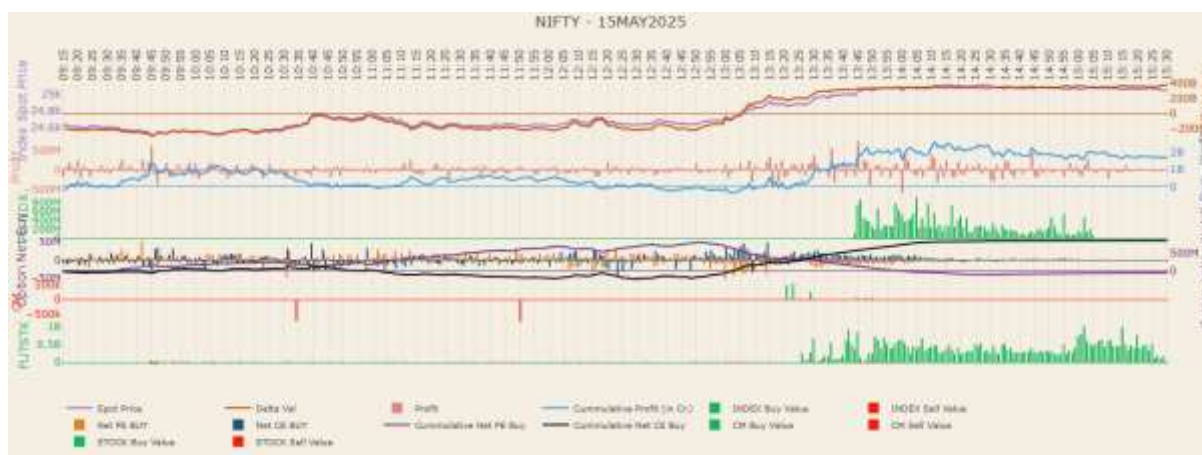
<sup>27</sup> For this table, only orders that resulted in trades during the patch have been considered. Further, calendar spread orders have not been considered in aforementioned data.

<sup>28</sup> The LTP impact attributable to the rest of the market was computed by adjusting the total price movement (vis-à-vis the respective scrip), for the impact created by Jane Street's trades.

- 17.15.** As can be seen from **Table 40** to **Table 43**, in several key NIFTY constituents (futures segment), Jane Street's trades were disproportionately skewed towards at or above LTP, consistent with an attempt to create upward price pressure.
- 17.16.** This reveals a consistent behavioural pattern - Jane Street was not trading neutrally, but was placing trades in a manner that propped up the prices of index stocks during the final 2 hours of trading.
- 17.17.** This pattern was not limited to constituent stock future alone. The Group was also observed to be actively trading in NIFTY index futures, particularly in the final hour of trading. Trading in index futures plays a strategic role in such expiry-day activity. Since index futures closely track the index and are highly liquid, they serve as an effective tool to amplify market sentiment, mirror or reinforce spot movement, and influence short-term index direction. Additionally, the settlement value of NIFTY options is ultimately tied to the closing index value, which itself is influenced by underlying constituent prices and index-linked futures sentiment.
- 17.18.** JS Group's trading in futures segment of all constituents in NIFTY with significant volume and LTP contribution suggests a deliberate approach to impact the broader index. Notably, this activity was absent in the cash segment, giving an impression of complying with regulatory caution (issued in February 2025) but actually manipulating the market through futures segment.
- 17.19.** Thus, Jane Street's trading in index futures alongside its stock-level trades appears to be part of a coordinated approach to support the NIFTY index level near expiry.
- 17.20.** While the LTP analysis captures how Jane Street potentially moved prices during the expiry window, it is necessary to understand why such price movement would be economically beneficial to the Group. This brings us to the delta profile of Jane Street's derivative positions.
- 17.21.** By analysing how Jane Street's delta exposure evolved intraday, particularly in relation to its expiry positions, we can assess whether its underlying trades were coordinated to push the market in a direction that favoured its options payoff. A rising delta indicates a bullish exposure (long

Calls or short Puts), while a declining or negative delta suggests a bearish stance (long Puts or short Calls).

**17.22.** Graphical analysis of trading and delta build-up for May 15, 2025 is placed below:



**17.23.** The graph above can be accessed through the QR code given below:



**17.24.** The analysis of delta movement on May 15, 2025, reveals a clear two-phase structure in Jane Street's exposure pattern:

### **Phase 1: Passive Delta Through Most of the Day (09:15 to 13:00)**

During the majority of the trading session, the Group's net delta position remained relatively low and passive, suggesting limited directional bias.

### **Phase 2: Aggressive Delta Build-Up in Bullish Direction (13:00 to 14:00)**

Beginning around 13:00, Jane Street started to rapidly accumulate bullish delta exposure, aligned with its aggressive buying in index futures and stock futures.

The net NIFTY delta exposure moved from a negative level to a significantly positive value by close, supported by:

- Long NIFTY Calls, and
- Short Puts.

Specifically, total NIFTY delta shifted from negative INR 17,125.75 Cr at open of trading session to positive INR 38,297.01 Cr at close, implying a directional swing of over INR 55,422.76 Cr.

For contracts expiring on May 15 itself, delta increased by INR 49,568.52 Cr intraday, with the steepest climb occurring during the last hour of trading.

**17.25.** This behaviour is particularly critical because it coincided precisely with the Group's futures-led buying pressure in NIFTY constituents. By creating a scenario where the index rose into the close, and holding a long-cash equivalent position in short-dated options, Jane Street stood to gain substantially from the uplift in the index's expiry value.

**17.26.** The temporal alignment between:

- The sharp delta build-up in favour of a bullish market outcome,
- The buying concentration in all constituent futures and index futures, and
- The profit spike in the final leg of trading and at expiry,

all point to a deliberately structured strategy. This was not passive hedging or opportunistic positioning. Rather, it appears to have been a planned trade

design, wherein the underlying was influenced to suit the derivative exposure, reversing the natural price discovery flow.

**17.27.** Accordingly, the delta profile of May 15 reinforces the broader finding that Jane Street's expiry-day conduct of aggressive and large purchases in NIFTY underlying stocks and index futures was intend to manipulate index levels higher at and around expiry, to maximise the profits from their much higher positions held in NIFTY index options.

**17.28.** The same pattern of 'extended marking the close' characterised by concentrated end-of-day activity in stock futures, and index futures segments, coupled with aligned options positioning—was observed on 2 other NIFTY options expiry days. The details of the other 2 days, in terms of an overall graphical representation of the JS Group activity, and tables detailing the quantum of their intervention in futures markets during relevant patches around index expiry (including as a percentage of Gross Traded Volume), the level of aggression of their intervention (as evidenced by order and trade LTP), and their trading activity and cash-equivalent positions in the index options segment are presented in Annexure 3.

**17.29.** The day-wise profits for the 3 days wherein the aforesaid "Extended Marking the Close" strategy was employed by JS Group in May 2025 has been recorded in **Table 44** of this Order. The total profit made by the JS Group in NIFTY index options across the 3 days was INR 370 crores.

## **G. ALLEGED VIOLATIONS of SEBI ACT AND PFUTP REGULATIONS**

**18.** *Prima facie*, the aforesaid trading patterns employed by the JS Group fall foul of regulation 4(2)(a) and 4(2)(e) of the PFUTP Regulations and the schemes as a whole are *prima facie* a fraudulent device prohibited by section 12A of the SEBI Act and regulations 3(a)-(d) and 4(1) of the PFUTP Regulations. The text of the said provisions is reproduced below:

### **SEBI Act:**

***Prohibition of manipulative and deceptive devices, insider trading and substantial acquisition of securities or control***

Section 12A. No person shall directly or indirectly—

- (a) use or employ, in connection with the issue, purchase or sale of any securities listed or proposed to be listed on a recognized stock exchange, any manipulative or deceptive device or contrivance in contravention of the provisions of this Act or the rules or the regulations made thereunder;
- (b) employ any device, scheme or artifice to defraud in connection with issue or dealing in securities which are listed or proposed to be listed on a recognised stock exchange;
- (c) engage in any act, practice, course of business which operates or would operate as fraud or deceit upon any person, in connection with the issue, dealing in securities which are listed or proposed to be listed on a recognised stock exchange, in contravention of the provisions of this Act or the rules or the regulations made thereunder.

....

**PFUTP Regulations:**

**Prohibition of certain dealings in securities**

**Regulation 3.** No person shall directly or indirectly—

- (a) buy, sell or otherwise deal in securities in a fraudulent manner;
- (b) use or employ, in connection with issue, purchase or sale of any security listed or proposed to be listed in a recognized stock exchange, any manipulative or deceptive device or contrivance in contravention of the provisions of the Act or the rules or the regulations made thereunder;
- (c) employ any device, scheme or artifice to defraud in connection with dealing in or issue of securities which are listed or proposed to be listed on a recognized stock exchange;
- (d) engage in any act, practice, course of business which operates or would operate as fraud or deceit upon any person in connection with any dealing in or issue of securities which are listed or proposed to be listed on a recognized stock exchange in contravention of the provisions of the Act or the rules and the regulations made thereunder.

**Prohibition of manipulative, fraudulent and unfair trade practices**

**Regulation 4 (1)** Without prejudice to the provisions of regulation 3, no person shall indulge in a fraudulent or an unfair trade practice in securities markets.

**Regulation 4 (2)** Dealing in securities shall be deemed to be a fraudulent or an unfair trade practice if it involves any of the following—

...

- (a) knowingly indulging in an act which creates false or misleading appearance of trading in the securities market;
- (e) any act or omission amounting to manipulation of the price of a security including, influencing or manipulating the reference price or bench mark price of any securities;

**19.** Regulation 4(2)(a) deems any act to be manipulative or fraudulent if it creates false or misleading appearance of trading in the securities market. Regulation 4(2)(e) deems any act to be *fraudulent* or manipulative if it amounts to manipulation of the price of a security or manipulates the benchmark price of any securities. Indices reflect the price of a basket of securities, and price changes in the underlying securities concomitantly move the benchmark as well.



- 20.** On 15 BANKNIFTY index option expiry days identified with 'Intra-day Index Manipulation Strategy' in this Order, in the first patch of the day, as has been clearly demonstrated by data and analysis, JS Group first aggressively bought significant quantities of BANKNIFTY underlying constituent stocks and futures, temporarily pushing up or lending considerable support to the BANKNIFTY index. In the second patch of the day, as has again been demonstrated by data and analysis, JS Group was seen to practically and effectively reverse all of this buying activity from the first patch, by aggressively selling large quantities of BANKNIFTY underlying constituent stocks and futures.
- 21.** There is little or no economic rationale to justify such large and aggressive intraday trading activity in stocks and futures on a standalone basis. In fact, given the sheer size, aggression, manner of trading and transaction costs involved, standalone, such activities could more often than not end with net trading losses. Note that across the 15 days in question, JS Group booked a total intraday trading loss of INR 199.7 crores in their activities in the BANKNIFTY constituent cash stocks and futures markets.
- 22.** By preponderance of probability, the only reasonable explanation for the sharp buying in BANKNIFTY constituent shares and futures in Patch I (*with the effective impending reversal of all these trades in Patch 2 later in the day*) is that it was designed to artificially manipulate the BANKNIFTY Index during Patch 1, and thereby artificially and temporarily moving the prices of BANKNIFTY calls and puts. JS Group certainly exploited this to the hilt, and as has been clearly demonstrated above in all 15 instances wherein they actively traded BANKNIFTY puts and BANKNIFTY calls during Patch I, at prices that were very advantageous to themselves, and to the detriment of other traders (including many small retail traders). During Patch I, JS Group effectively took on active opposite side positions in BANKNIFTY index that were significantly higher in magnitude than the quantum of their intervention in the underlying cash and futures markets.
- 23.** Given the repetitive nature of this distinctive pattern over 15 days, by preponderance of probability, JS Group and its trading systems were clearly

designed to reverse all of the significant and aggressive Patch 1 activity in BANKNIFTY stocks and futures during Patch 2, i.e., by the end of the day. Unlike other participants, the JS Group and its trading systems were aware, therefore, that the stock and BANKNIFTY prices were being influenced artificially for a short period of time by their own demonstrably large and aggressive actions in the underlying cash and futures markets. They were also aware that BANKNIFTY was very likely to reverse again by the end of the day, given the design to aggressively reverse all of their morning activity (and sometimes even more). However, other entities - including the many retail traders - who trade solely in BANKNIFTY index options and look to the extant BANKNIFTY level to price their options, were oblivious to this pattern unfolding. Consequently, they were induced to deal in options at a time during Patch 1 when the BANKNIFTY index and options markets were being artificially and temporarily influenced.

**24.** On the three other days during the examination period (i.e. on October 4, 2023, May 8, 2024, and July 10, 2024) that have been highlighted above, the data and analysis presented clearly shows that the JS Group pursuing an 'extended marking the close strategy'. 'Extended Marking the close' refers to a manipulative trading practice where an entity aggressively places large buy or sell orders and trades towards the end of a trading session, with the specific intent of influencing the closing price of a security or index to its advantage. This practice is particularly concerning on derivative expiry days, as the closing price directly affects the settlement value of index-based contracts, thereby directly impacting payoffs for all market participants.

**25.** On all these three days, the JS Group was seen to be moving significant volumes (again, demonstrated clearly by percentage Gross Traded Volume, or GTV) in the underlying index constituent stocks and futures, very aggressively (as clearly demonstrated by the Last Traded Price or LTP analysis), to engineer a close in the index that was wholly favourable to their even larger effective positions in index options expiring the same day.

- 26.** By preponderance of probability, there is no economic rationale that can account for this sudden burst of large and aggressive activity towards the close on expiry day, other than the intent to manipulate the price of securities and index benchmark, so as to engineer a favourable expiry for the even larger positions that the group was running in index options.
- 27.** In addition, outside of the examination period on May 15, 2025, as has been highlighted and described above, JS Group was seen to be indulging prima facie in 'extended marking the close' of the NIFTY50 index, in order to benefit in the significant positions that they were carrying in the NIFTY50 index options market. As noted, this was in cynical defiance of the explicit Exchange communication to the JS Group in February 2025, and their own representations made to the Exchange in February 2025.
- 28.** It is significant and worth noting that across all the 18 days identified in this order during the examination, JS Group booked profits of INR 4,474 crores in BANKNIFTY index options, while booking losses of INR 201 crores in their intraday trading in underlying BANKNIFTY constituent cash and futures segments. This further buttresses the argument that the demonstrably large and aggressive trading behaviour of JS Group in the BANKNIFTY constituent stocks and futures had little standalone economic rationale, other than to manipulate the prices of securities and benchmarks, to mislead, entice, or cause loss to the participants in the index options markets, so that the JS Group could in turn benefit immensely and illegally from the even larger positions that they were creating or carrying in index options. The immediate and proximate facts and circumstances, thus, lead to a logical and necessary inference that the large and aggressive trades were not executed in a vacuum or for ordinary hedging or arbitrage operations, but rather for an intricate and egregious manipulation of the prices of securities and benchmark indices for their own illegal gains, to the detriment of several lakhs of small market participants.
- 29.** Note also that Regulation 20(4) of the FPI Regulations prohibits FPIs from netting of trades in the cash market which essentially means that they cannot sell shares

before they are credited to their demat accounts or perform simultaneous buy and sell trades within the same day. The said regulation reads as follows:

*“(4) In respect of investments in the secondary market, the following additional conditions shall apply–*

*(a) A foreign portfolio investor shall transact in the securities in India only on the basis of taking and giving delivery of securities purchased or sold;*

*(b) Nothing contained in clause (a) shall apply to–*

*(i) any transactions in derivatives on a recognized stock exchange;*

*(ii) short selling transactions in accordance with the framework specified by the Board;*

*....”*

**30.** JSI Investments Private Limited, the JS Group entity incorporated in India, executed intra-day trades in the cash segment during the examination period. The two FPIs forming part of the JS Group took large positions in futures and options segment. The intraday cash market transactions undertaken by the Indian entity consistently ended with large losses. It appears that the incorporation of the aforesaid company in India enabled the JS Group to get around the regulatory prohibition against cash market transactions which solely applied to FPIs, and thereby execute the manipulative scheme without specifically flouting the FPI Regulations.

**31.** Note further that during the entire examination period across all their trades, JS Group made a total profit of INR 36,502.12 crores across all segments. Within this, it is notable that the JS Group made profits of INR 43,289.33 crores in index and stock options, while they net lost INR 7,208 crores in stock futures, lost INR 191 crores in index futures, and lost INR 288 crores in trading in cash equities segment. The trading of the JS Group in BANKNIFTY and other indices on other days (*i.e. other than the 18 days within the examination period and the recent instances of alleged manipulation on 3 days*) during the examination period and beyond remain to be investigated.

**32.** Incurring losses in cash and futures market in a deliberate and systematic manner is itself unusual and indicative of fraud. The Hon'ble Supreme Court in the matter of *SEBI vs. Rakhi Trading Pvt. Ltd. and other connected appeals* decided on February 8, 2018 held the following:

Judgement pronounced by Justice Kurian Joseph

*“35. Having regard to the fact that the dealings in the stock exchange are governed by the principles of fair play and transparency, one does not have to labour much on the meaning of unfair trade practices in securities. Contextually and in simple words, it means a practice which does not conform to the fair and transparent principles of trades in the stock market. In the instant case, one party booked gains and the other party booked a loss. Nobody intentionally trades for loss. An intentional trading for loss per se, is not a genuine dealing in securities. The platform of the stock exchange has been used for a non-genuine trade. Trading is always with the aim to make profits. But if one party consistently makes loss and that too in preplanned and rapid reverse trades, it is not genuine; it is an unfair trade practice. Securities market, as the 1956 Act provides in the preamble, does not permit 'undesirable transactions in securities'. ... Orchestrated trades are a misuse of the market mechanism. It is playing the market and it affects the market integrity.”*

*(emphasis supplied)*

**33.** In the instant case, the series of trades executed by Jane Street Group demonstrate a pattern which, when viewed in its totality, indicates a *prima facie* intent to take unfair and undue advantage of the market structure and sentiments prevailing at the time.

**34.** In the Rakhi Trading case (*supra*), the Hon'ble Supreme Court has inter alia held as follows:

*“35. ... Market manipulation is a deliberate attempt to interfere with the free and fair operation of the market and create artificial, false or misleading appearances with respect to the price, market, product, security and currency.”*

*“36. ... If the factum of manipulation is established, it will necessarily follow that the investors in the market have been induced to buy or sell and that no further proof in this regard is required.”*

**35.** While one is not required to demonstrate 'inducement' to prove fraud once market manipulation is established, it is evident from the volumes and number of individual

PANs that have traded in index options for instance on January 17, 2024 (*a BANKNIFTY expiry day*) that by manipulating the index on expiry days, large number of participants are likely to have been induced to deal in index options at artificial prices. The massive profits by the JS Group in index options through these egregiously manipulative activities, to the detriment of other participants including many small retail traders, may well account for some part of the conclusions of SEBI's earlier research report dated September 23, 2024 which revealed that 93% of over 1 crore individual F&O traders incurred losses during the three years from FY22 to FY24.

**36.** In view of all of the above, prima facie, I find that the Entities have violated section 12A (a), (b) and(c) of the SEBI Act, 1992; regulations 3(a), (b), (c), (d), 4(1) and 4(2)(a) and (e) of the PFUTP Regulations, 2003.

## H. COMPUTATION OF ILLEGAL GAINS

**37.** The details of illegal gains made by the Entities in the index options segment on the impugned days is given in the Table below. The method of computation of illegal gains is explained in the Annexure 4.

**Table 44**

Sr No.	Date	Profit (in INR)	Index	Manipulative Strategy adopted
1	31/08/2023	1,91,58,80,692	BANKNIFTY	<i>Intra-day Index Manipulation Strategy</i>
2	13/09/2023	2,12,17,98,622	BANKNIFTY	
3	20/09/2023	2,33,13,29,117	BANKNIFTY	
4	28/09/2023	2,41,68,87,439	BANKNIFTY	
5	04/10/2023	1,63,67,11,214	BANKNIFTY	<i>Extended marking the close</i>
6	18/10/2023	3,17,32,61,362	BANKNIFTY	<i>Intra-day Index Manipulation Strategy</i>
7	26/10/2023	2,59,12,21,492	BANKNIFTY	
8	06/12/2023	1,50,90,17,742	BANKNIFTY	
9	03/01/2024	1,64,65,18,393	BANKNIFTY	
10	17/01/2024	7,34,92,69,578	BANKNIFTY	
11	06/03/2024	1,97,04,91,842	BANKNIFTY	
12	16/04/2024	1,70,27,29,601	BANKNIFTY	
13	08/05/2024	1,71,00,78,602	BANKNIFTY	<i>Extended marking the close</i>
14	15/05/2024	1,60,71,51,918	BANKNIFTY	<i>Intra-day Index Manipulation Strategy</i>
15	29/05/2024	2,58,55,35,776	BANKNIFTY	

Sr No.	Date	Profit (in INR)	Index	Manipulative Strategy adopted
16	19/06/2024	3,22,44,61,015	BANKNIFTY	<i>Extended marking the close</i>
17	03/07/2024	2,99,03,41,049	BANKNIFTY	
18	10/07/2024	2,25,35,13,656	BANKNIFTY	
19	08/05/2025	3,06,65,621	NIFTY	
20	15/05/2025	1,67,52,81,113	NIFTY	
21	22/05/2025	1,99,36,24,324	NIFTY	
	<b>Grand Total</b>	<b>48,43,57,70,168</b>		

**38.** As noted earlier in this Order, on 15 BANKNIFTY index option expiry days identified with ‘*Intra-day Index Manipulation Strategy*’, in the first patch of the day JS Group first aggressively transacted significant quantities of BANKNIFTY underlying constituent stocks and futures, temporarily influencing the BANKNIFTY index. This was followed, in Patch 2, by an effective reversal of positions in BANKNIFTY underlying constituent stocks and futures. This resulted in, JS Group booking an intraday trading loss of a total of INR 199.7 crores across the aforesaid 15 days. This otherwise irrational loss was arising from trades that enabled JS Group to benefit immensely and illegally from the even larger positions that they were creating or carrying in index options. Clearly therefore, this ‘loss’ can only be viewed as a mala fide cost incurred by the JS Group to perpetrate their *prima facie* manipulative and fraudulent scheme.

**39.** In the case of Immix Trade Pvt Ltd. and Ors. v. SEBI (*in the matter of Ruchi Soya Industries Ltd.*), vide order dated November 10, 2023, the Hon’ble SAT held as follows:

*“Explanation to Section 11B of SEBI Act as inserted vide Securities Laws (Amendment) Act, 2014, clearly provides that :-*

*“Explanation. - For the removal of doubts, it is hereby declared that the power to issue directions under this section shall include and always be deemed to have been included the power to direct any person, who made profit or averted loss by indulging in any transaction or activity in contravention of the provisions of this Act or regulations made thereunder, to disgorge an amount equivalent to the wrongful gain made or loss averted by such contravention.”*

*72. A reading of the aforesaid explanation shows that the law envisages disgorgement of profit / loss avoidance, made in violation of securities law, without any set-off of any expenses or loss suffered by the violator. Therefore,*

*the contentions of the appellant that calculation of disgorgement amount should also take into consideration the amount of losses suffered by it is untenable.”*

(emphasis supplied)

40. Therefore, when computing illegal gains made by the JS Group, I find no reason to set off the losses made by the JS Group in the cash/futures market which were incurred as part of the manipulative device to influence the benchmark indices and profit from the positions taken in the index options.

#### **I. NEED FOR INTERIM DIRECTIONS**

41. I now proceed to determine whether any interim measures are warranted in the facts of this case. It is trite law that passing of interim directions require demonstrating the existence of a prima facie case, irreparable injury if interim directions are not passed, and a balance of convenience in favour of passing such directions.

#### **Prima facie case**

42. It has been shown above that at least on 21 days, the JS Group has prima facie engaged in illegal manipulation of the securities that comprise the BANKNIFTY and NIFTY indices, thereby vitiating market fairness and integrity, and illegally benefiting from their trading activities and positions in the index options markets.

43. I have already concluded above that that prima facie, the Entities have violated section 12A(a), (b) and (c) of the SEBI Act, 1992; regulations 3(a), (b), (c), (d), 4(1) and 4(2)(a) and (e) of the PFUTP Regulations, 2003. To that extent, I am satisfied that the first condition for passing interim directions has been satisfied.

#### **Irreparable Injury**

##### ***Integrity of the Market:***

44. Several decisions of the Hon'ble Supreme Court, High Courts and SAT have emphasized the need to maintain the integrity of the securities market. Some of the decisions with observations of the Hon'ble Supreme Court in this context and their extracts are reproduced below:

**(i) Subrata Roy Sahara vs. Union of India (UOI) and Ors. (06.05.2014 - SC)**



*Preservation of market integrity is extremely important for economic growth of this country and for national interest. Maintaining investors' confidence requires market integrity and control of market abuse. Market abuse is a serious financial crime which undermines the very financial structure of this country...*

**(ii) N. Narayanan vs. Adjudicating Officer, SEBI (26.04.2013 - SC)**

*Prevention of market abuse and preservation of market integrity is the hallmark of Securities Law... Securities market is based on free and open access to information, the integrity of the market is predicated on the quality and the manner on which it is made available to market...*

*Message should go that our country will not tolerate "market abuse" and that we are governed by the "rule of law". Fraud, deceit, artificiality, SEBI should ensure, have no place in the securities market of this country and "market security" is our motto.*

**(iii) Securities and Exchange Board of India vs. Kishore R. Ajmera (23.02.2016 - SC)**

*The SEBI Act and the Regulations framed thereunder are intended to protect the interests of investors in the Securities Market which has seen substantial growth in tune with the parallel developments in the economy. Investors' confidence in the Capital/ Securities Market is a reflection of the effectiveness of the regulatory mechanism in force. All such measures are intended to pre-empt manipulative trading and check all kinds of impermissible conduct in order to boost the investors' confidence in the Capital market. The primary purpose of the statutory enactments is to provide an environment conducive to increased participation and investment in the securities market which is vital to the growth and development of the economy.*

**45.** The prima facie finding is that that BANKNIFTY index- a major index of the securities market comprising 12 stocks of India's major banks has prima facie been manipulated in a complex and illegal manner aided by the JS Group's immense trading, financial and technological prowess. Thus there has been an egregious distortion of integrity and fairness in the securities market. Past instances of securities market violations have mostly involved individual stocks or segments. However, this is an unusual case where prima facie, multiple liquid stocks with high retail participation have together been manipulated to facilitate the manipulation of the index options market, resulting in massive profits for the manipulators, at the cost of other participants and retail traders.

**46.** The findings of an earlier research report by SEBI which *inter alia* states that 93% of retail investors made losses when trading in the options market now gains additional context. Such losses when juxtaposed with the abnormally high profits made by JS Group entities as a result of the prima facie manipulation of the cash, futures and options markets, is reflective of the deep damage that the group has inflicted through their illegal activities. Making profits while dealing in securities by

itself is certainly not objectionable. Genuine trading strategies such as arbitraging or hedging or directional positioning are well accepted and cannot be found fault with. What is, however, unacceptable and illegal, is the use of egregious manipulative practices to create opportunities to manipulate markets, influence and manipulate indices, and artificially profiteer from such moves with their large trading and risk positions in index options markets.

***Nature of entities, fund transfers and possibility of diversion of illegal gains:***

**47.** Out of the 4 entities involved in this case, 2 entities – i.e. Jane Street Singapore Pte Ltd. And Jane Street Asia Trading Ltd. are registered FPIs, incorporated in Singapore and Hong Kong respectively. One entity, i.e. JSI Investments Private Limited is incorporated in India in December 2020 and located in Mumbai. It was wholly owned by Jane Street Europe Limited, a company incorporated in United Kingdom. JSI2 Investments Private Limited was incorporated in India in September 2024 and located in Mumbai. It was wholly owned by JSI Investments Private Limited. Note that the email sent by Jane Street to SEBI dated August 30, 2024, and the letter from Jane Street to NSE dated February 21, 2025, both indicate that all Jane Street Group entities dealing in Indian markets act collectively, and are overseen by senior personnel based overseas.

**48.** FPIs are permitted by law to deploy funds within specified limits and divest their holdings without any restrictions around repatriation. In the case of the JS Group entities, their core activity does not involve medium-term or long-term ‘investments’ as is generally understood. In fact, the average month end equity holdings of the FPIs in the JS Group, including from amongst the Entities, between January 2025 and May 2025 was INR 311 crores, which is a fraction of the quantum of enormous bursts of short-term equity-related risk that the JS Group is demonstrated to have taken on expiry days in index options. During the same period, the JS Group FPIs were instead holding on average INR 15,325 crores of India Government Securities, which served as necessary and essential cash-equivalent liquid margin for them to trade in F&O markets to the enormous extent that they did. In short, the small holdings in equity and the large holdings in cash-equivalent government

bonds indicates that their business is to make profits from significant short-term High Frequency Trading (HFT) in the securities market. Nothing prevents these JS Group FPIs from liquidating these liquid assets and repatriating them from the country.

- 49.** In addition, as has been argued before, during the examination period, the JS Group was seen to have profited heavily from their trading and positions in Index and Stock options, while they lost some money in their dealings in stock and index futures, and in cash equities. As has also been demonstrated in this order, JS Group appears to be most active on expiry days of index options. In short, unlike many FPIs that are investors primarily investing in the cash markets, JS Group is a short term trading entity, concentrating largely on index options trading rather than in equity investments.
- 50.** For perspective, it would be useful to note as per data published in SEBI's Analysis of Profits & Losses in the Equity Derivatives Segment (FY22-FY24)<sup>29</sup> that out of 11,219 FPIs registered with SEBI as on March 31, 2024, only 2.50% of the FPIs are engaged in algorithmic trading. JS Group is part of this short term algorithmic trading community.
- 51.** As noted earlier in this Order, it appears that the incorporation of the JSI Investments Private Limited in India enabled the JS Group to work around the regulatory prohibition in FPI Regulations against FPIs undertaking intraday cash market transactions, and thereby execute the manipulative scheme without specifically flouting the FPI Regulations.
- 52.** Much of the enormous amount of trading and position taking in F&O by the JS Group have been undertaken by the FPIs in the JS group, and much of the profits arising from the prima facie manipulative schemes as identified in the 21 instances elaborated in this Order have also been booked by them. JS Group is a large multinational entity, controlled by managers residing outside of India. In fact, during the examination period, the net profits booked in the FPIs in the JS Group

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<sup>29</sup> [https://www.sebi.gov.in/reports-and-statistics/research/sep-2024/study-analysis-of-profits-and-losses-in-the-equity-derivatives-segment-fy22-fy24-\\_86905.html](https://www.sebi.gov.in/reports-and-statistics/research/sep-2024/study-analysis-of-profits-and-losses-in-the-equity-derivatives-segment-fy22-fy24-_86905.html)

amounted to INR 32,681 crores. The magnitude of this profit is significantly higher than the average quantum of assets held by these FPIs in India as of the month ends between January and May, 2025, indicating that these profits have been repatriated. The activities of the Indian entity JSI Investments Private Ltd has been shown to be – and are admitted to be, by the JS Group – to be an integral part of the whole of the JS Group activity. This Order has made the case that *prima facie*, the demonstrably large and aggressive intraday activities undertaken by the Indian entity in index constituent stocks have no economic rationale other than to manipulate the underlying indices, to benefit the significantly larger index options positions created or carried by the JS Group FPI entities. At least to the extent of this coordination across JS Group, the activities of the Indian entities are also clearly being overseen by the JS group as a whole. As noted earlier, FPIs are free to repatriate their profits and exit Indian markets at their discretion.

**53.** In this overall context, there is justifiable concern surrounding the enforceability of any orders of disgorgement of illegal gains, that may be passed subsequent to completion of investigation. Given the strong *prima facie* case made in this order, the sheer quantum of *prima facie* illegal gains identified in this Order, the continuing nature of the *prima facie* violations identified in this Order, the continuing and ongoing nature of the investigation, and the possibility and risk of sale of assets/repatriation/diversion that would defeat or inexorably delay the enforcement process, is high enough to warrant interim impounding and debarment directions.

**Urgency:**

**54.** As has been noted earlier in this order, when suspicions around the *prima facie* manipulative trading patterns of JS Group arose in early 2025, on SEBI's instructions, in February 2025, NSE as a first line regulator clearly and explicitly cautioned the JS Group to desist from taking on large risks in the index options markets, and to desist from undertaking trading patterns that raised concerns of manipulative behaviour. In turn, JS Group themselves represented in February 2025 to NSE of their commitment to adhere to all regulations.

55. However, as recently as May 2025, as has been clearly demonstrated in this order, JS Group again resorted to undertaking *prima facie* manipulative ‘extended marking the close’ trading patterns of large and aggressive intervention in index and constituent markets towards the expiry day closing, so as to influence and manipulate the index to their illegal advantage. The impugned trades in May 2025 are a cynical violation of the caution letter issued to the JS Group on February 06, 2025, and of their own declarations made to NSE in the same month.
56. Such egregious behaviour, in clear disregard/ defiance of the explicit advisory issued to them by NSE in February 2025, amply demonstrates that unlike the vast majority of Foreign Portfolio Investors and other market participants, JS Group is not a good faith actor that can be, or deserves to be, trusted. The integrity of the market, and the faith of millions of small investors and traders, can no longer be held hostage to the machinations of such an untrustworthy actor. Investor protection forms the core of SEBI’s regulatory mandate. In the face of such a strong *prima facie* case that allowing the JS Group to continue as before may severely compromise investor protection on an extraordinary scale, SEBI has a duty to directly intervene.
57. SEBI’s power to pass interim orders has been recognized by numerous decisions of the Hon’ble Supreme Court, High Courts and SAT. SEBI’s power to issue ex-parte interim directions was upheld in the case of ***Ramrakh Bora vs. SEBI 1998 (18) SCL 543 (Bom HC)*** and subsequently reaffirmed in the case of ***SEBI vs. Alka Synthetics Ltd. And Ors. 1999 (1) CLJ 396 (Guj HC)***. In the case of ***C G Power & Industrial Solutions Ltd. (SAT Appeal 413/2019)***, Hon’ble SAT vide its order dated October 01, 2019 noted that had SEBI failed to exercise its interim powers of impounding it would have defeated the purposes for which such powers were assigned to SEBI under the SEBI Act, 1992. The relevant extract from the said order is given below:

*“It was thus extremely necessary that an action on urgent basis was required to stop further defalcation/ diversion/ siphoning of the funds of the Company and to protect the interest of the investors and its shareholders and to instill confidence in the securities market. Such measures if not taken while the iron*

*was not would defeat the regulatory measures that has been provided to SEBI under the SEBI Act.”*

58. Failing to take immediate action pending further investigation, will cause irreparable damage by – (a) severely denting confidence in the securities market, (b) allowing the possibility of continued manipulation at the cost of lakhs of traders and investors and (c) rendering post investigation remedial measures, irrelevant.

### **Balance of Convenience**

59. The balance of convenience also rests in favour of passing interim directions. If the entities are able to submit justifiable reasons that counter the prima facie conclusions, post-hearing decision may result in revocation of interim orders in the first instance. Similarly, if, after detailed investigation it transpires that the market was in fact not manipulated by JS Group, the alleged illegal gains that have been impounded will be released for their use and they shall be free to continue with their business. On the other hand, if interim directions are not passed at this juncture and it transpires after detailed investigation that illegal gains had in fact been made which were diverted (*the strong likelihood of which has been discussed earlier*), the loss to market integrity, investor protection, investor confidence and the futility of the post-investigation remedial measures, all will result in severe and irreparable damage. However, considering the unprecedented scale and complexity of the violations involved, the time needed to complete the investigation and consequent action can be significant. If such investigation eventually does not result in a finding against the Entities, the adverse impact of the interim restraint on the Entities may not be remediable.
60. Considering all of the above, therefore, I am convinced that, pending detailed investigation, the balance of convenience lies in –
- (i) passing interim directions against the Entities for impounding and retaining the alleged unlawful gains; and,
  - (ii) restraining the Entities from dealing in securities till such time the directions for impounding illegal gains is complied with.

**61.** I am also convinced that interim cease and desist directions are warranted in the facts of this case. Also, until the completion of the investigation and the related proceedings, it is imperative that exchanges should monitor any future dealings and positions of JS Group closely on an ongoing basis, to ensure that they do not, either directly or indirectly, indulge in any kind of manipulative activity. This is crucial to preserve the overall faith in the ecosystem and to protect investors.

**J. ORDER:**

**62.** In view of the above, pending detailed investigation, in order to protect the interests of investors and the integrity of the securities market, I, in exercise of the powers conferred upon me under sections 11(1), 11(4), 11B(1) and 11D read with section 19 of the SEBI Act hereby issue by way of this interim ex-parte order, the following directions, which shall be in force until further orders:-

- 62.1.** The total amount of unlawful gains earned by the JS Group from the alleged violations as provided in **Table 44** i.e. ₹4,843,57,70,168/- (Four Thousand Eight Hundred Forty Three Crore Fifty Seven Lakh Seventy Thousand One Hundred and Sixty Eight Rupees only), shall be impounded, jointly and severally. Entities are directed to open escrow account in a Scheduled Commercial Bank in India to deposit jointly and severally the aforesaid amount of unlawful gains with a lien marked in favour of SEBI and the amount kept therein shall not be released without permission from SEBI.
- 62.2.** Entities are restrained from accessing the securities market and are further prohibited from buying, selling or otherwise dealing in securities, directly or indirectly.
- 62.3.** Banks, where Entities are holding bank accounts, are directed to ensure that no debits are made, without permission of SEBI, in respect of the bank accounts held individually or jointly by Entities, except for the purpose of complying with this Order. However, credits, if any, into the accounts may be allowed. Further, debits in the bank accounts may also be allowed for amounts available in the account in excess of the amount to be impounded.
- 62.4.** Custodians of Entities Nos. 3 and 4 are directed to ensure that no debits are made in respect of assets of said entities under their custody, without the permission of SEBI.

- 62.5.** Depositories are directed to ensure that no debit shall be made, without permission of SEBI, in respect of the demat accounts held by Entities. However, credits, if any, into the accounts may be allowed.
- 62.6.** Banks, Custodians and the Depositories are directed to ensure that all the aforesaid directions are strictly enforced and complied with.
- 62.7.** The Registrar and Transfer Agents shall ensure that, they neither permit any transfer nor redemption of securities, including Mutual Funds units, held by Entities.
- 62.8.** Entities shall not dispose of or alienate any of their assets/properties in India, till such time, the amount of unlawful gains is credited to escrow account except with the prior permission of SEBI.
- 62.9.** Entities are further directed to provide a full inventory of all their assets in India whether movable or immovable, or any interest or investment or charge in any of such assets, including property, details of all their bank accounts, demat accounts, holdings of shares/securities if held in physical form and mutual fund investments and details of companies in which they hold substantial or controlling interest immediately but not later than 15 days of this Order.
- 62.10.** If the Entities have any open position(s) in any exchange traded derivative contracts, as on the date of this Interim order, they can close out/square off such open positions within 3 months from the date of order or at the expiry of such contracts, whichever is earlier. The Entities are permitted to settle the pay-in and pay-out obligations in respect of transactions, if any, which have taken place before the close of trading on the date of this order. Banks, Custodians and Depositories are allowed to debit the accounts for the purpose of complying with this direction.
- 62.11.** The directions stipulated in clauses 62.2, 62.3, 62.4, 62.5, 62.7, 62.8 and 62.10 shall cease to apply upon compliance with directions in clause 62.1 above.
- 62.12.** The Entities shall cease and desist from directly or indirectly engaging in any fraudulent, manipulative or unfair trade practice or undertaking any activity, either directly or indirectly, that may be in breach of extant regulations,



including by dealing in securities using any of the patterns identified or alluded to in this order.

**62.13.** Stock Exchanges are directed to closely monitor any future dealings and positions of JS Group on an ongoing basis, to ensure that Entities do not either directly or indirectly indulge in any kind of manipulative activity, including by dealing in securities using any of the patterns identified or alluded to in this order, till the completion of the investigation by SEBI and the consequent proceedings, if any.

**63.** The *prima facie* observations contained in this Order are made on the basis of the material available on record. The Entities may within 21 days from the date of receipt of this Order, file their reply/ objections, if any, to this Order and may also indicate whether they desire to avail an opportunity of personal hearing on a date and time to be fixed on a specific request to be made in this regard.

**64.** This Order is without prejudice to the right of SEBI to take any other action against the Entities in accordance with law.

**65.** The above directions shall take effect immediately and shall be in force until further orders.

**66.** A copy of this Order shall also be served upon the Entities, all recognised Stock Exchanges, Depositories, Banks and Registrar and Share Transfer Agents for necessary compliance with the directions in this Order.

**ANANTH NARAYAN G.**

**DATE: JULY 3, 2025**

**WHOLE TIME MEMBER**

**PLACE: MUMBAI**

**SECURITIES AND EXCHANGE BOARD OF INDIA**

**Encl: Annexures 1 to 4** are provided at [here](#).