



UBS Investment Bank  
Sales and Trading Commentary  
Not a product of the UBS  
Research department

# US Equity Market Internal Dynamics Update

## *Q2 2023 Outlook*

*April 2023*

For Broker/Dealer and Qualified Institutional Buyer (QIB) Use Only.  
Presentation Not Approved for Retail Investors.

### *US Equity Derivatives Strategy*

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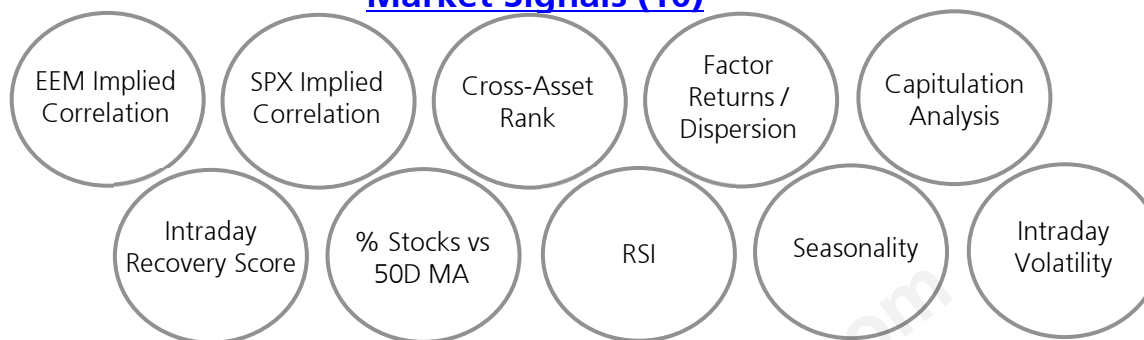
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# Market Internal Dynamic Model – Least Red in at least a year

## Market Signals (10)



### Color Code:

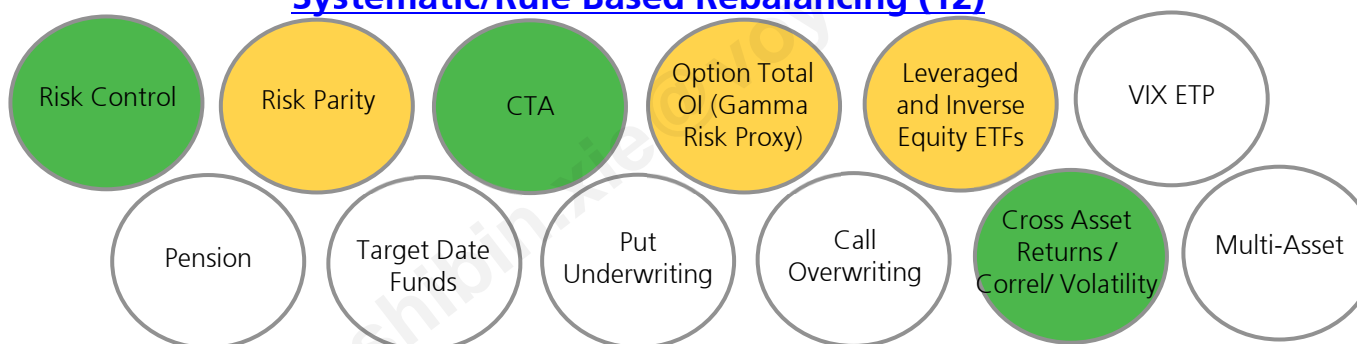
GREEN – Bullish

RED – Bearish

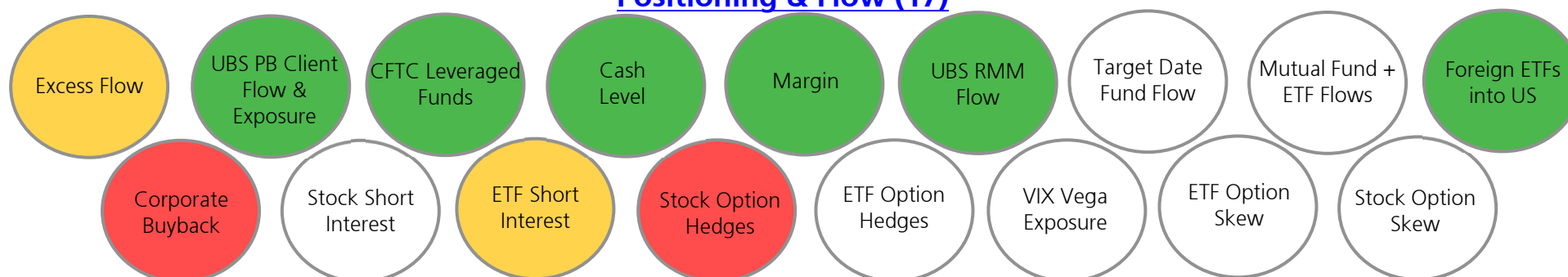
YELLOW – Neutral yet important

WHITE – Neutral & not important

## Systematic/Rule Based Rebalancing (12)



## Positioning & Flow (17)



# Long-Drawn (> 9 months) Major Drawdown (SPX < -25%) since 1970's

- All **5 long-drawn major drawdowns** were triggered by **Recession**

## ➤ Sell-off Start:

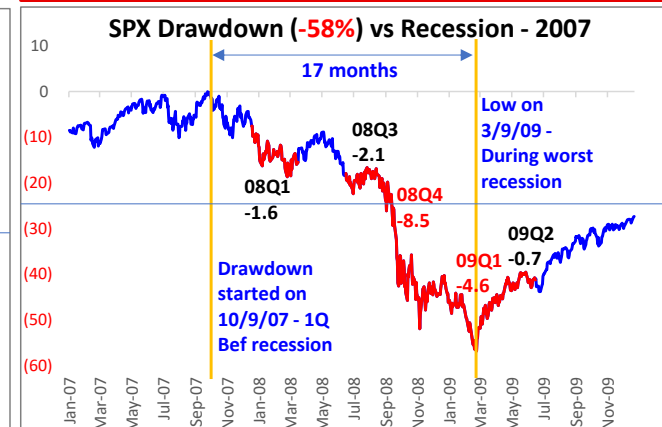
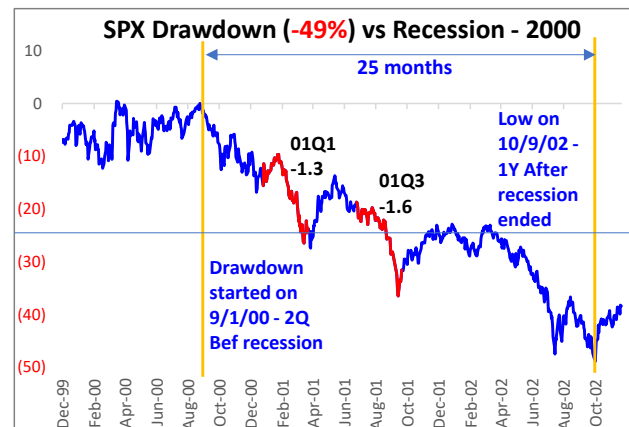
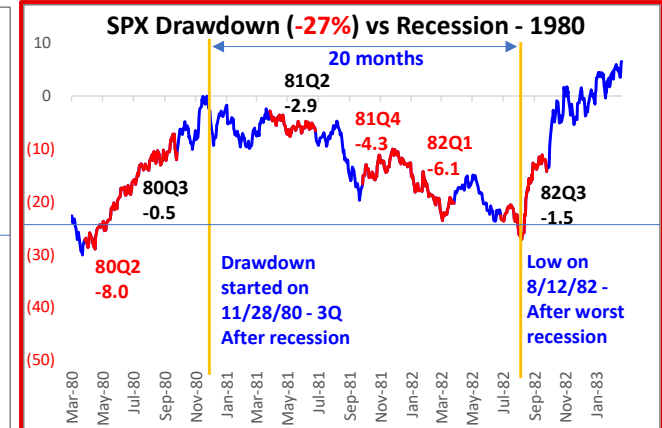
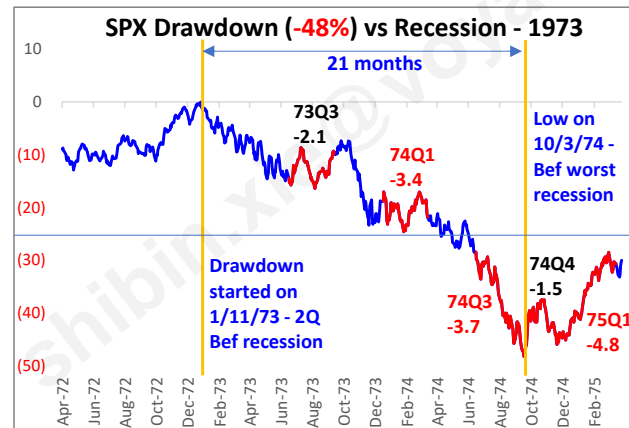
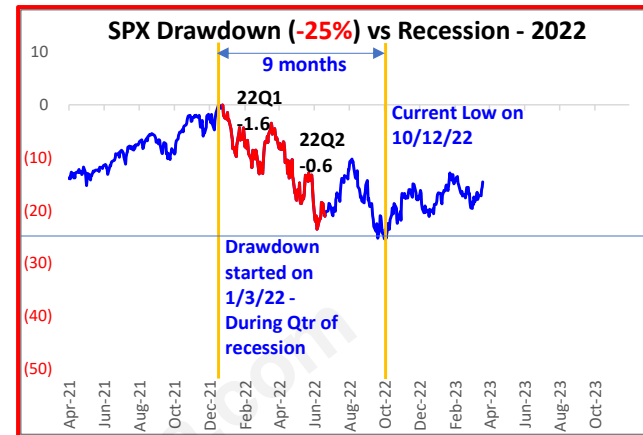
- **3 started before recession started** (1973, 2000, 2007)
- 1 during (Current - 2022)
- 1 after (1980)

## ➤ Sell-off Acceleration:

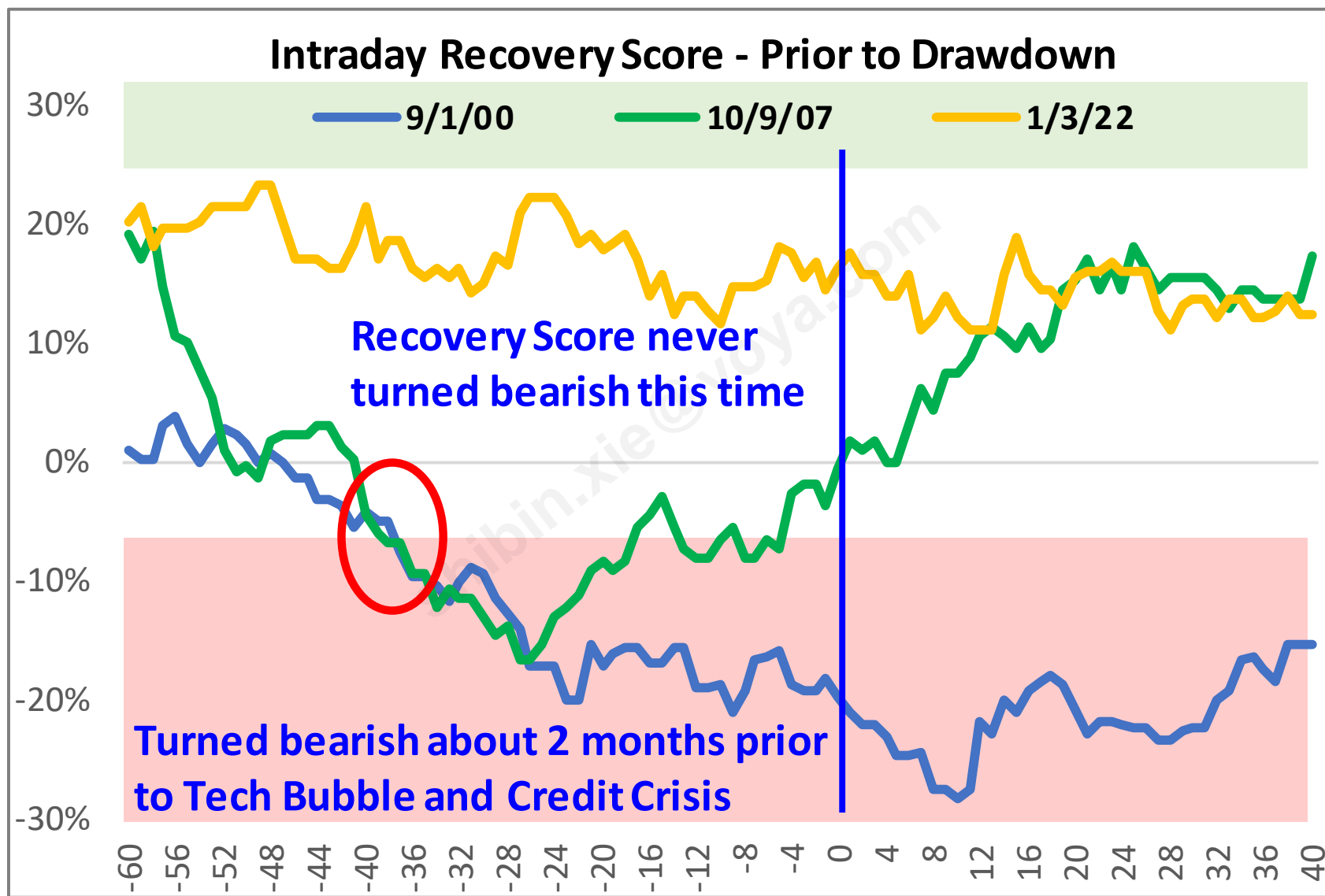
- **3 accelerated after recession worsened** (1980, 2000, 2007)
- 1 recovered before recession worsened

## ➤ Sell-off End:

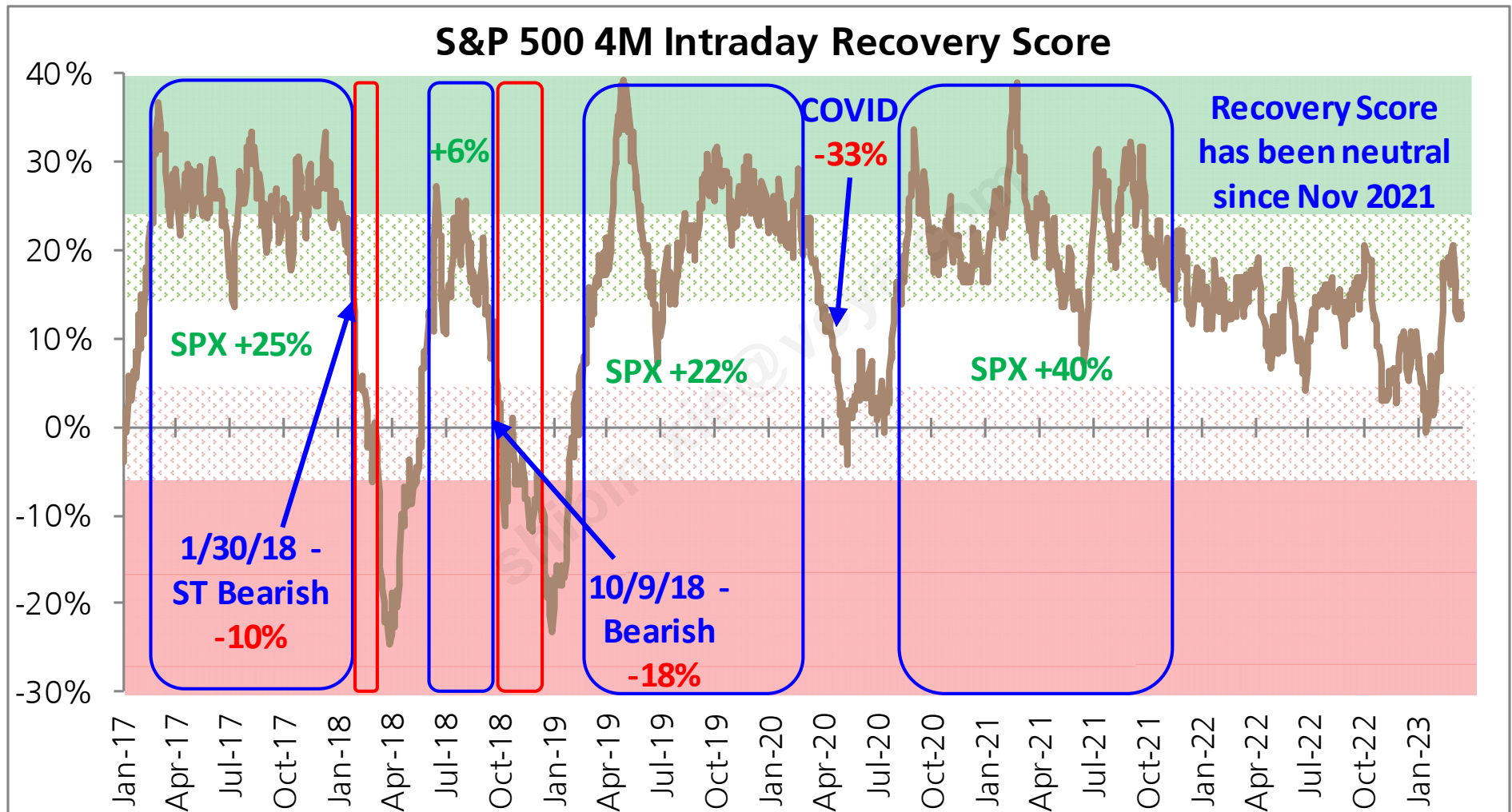
- **3 ended before recession ended** (1973, 1980, 2007)
- 1 ended after recession ended (2000) due to tech bubble



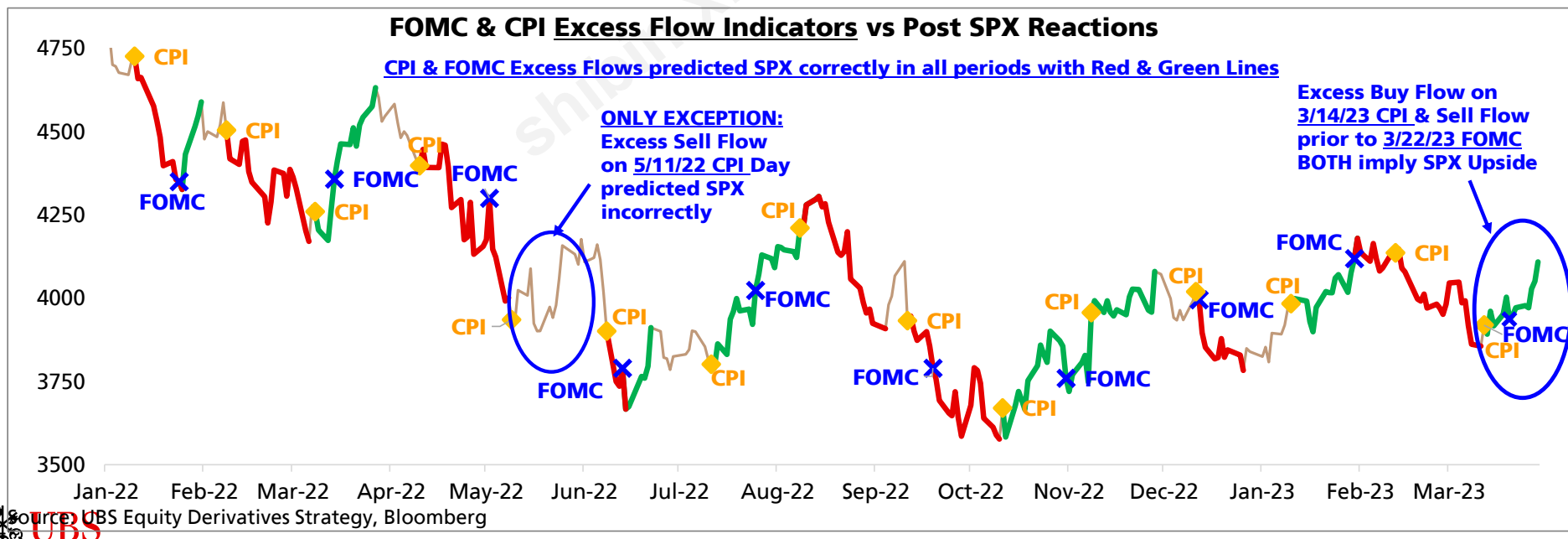
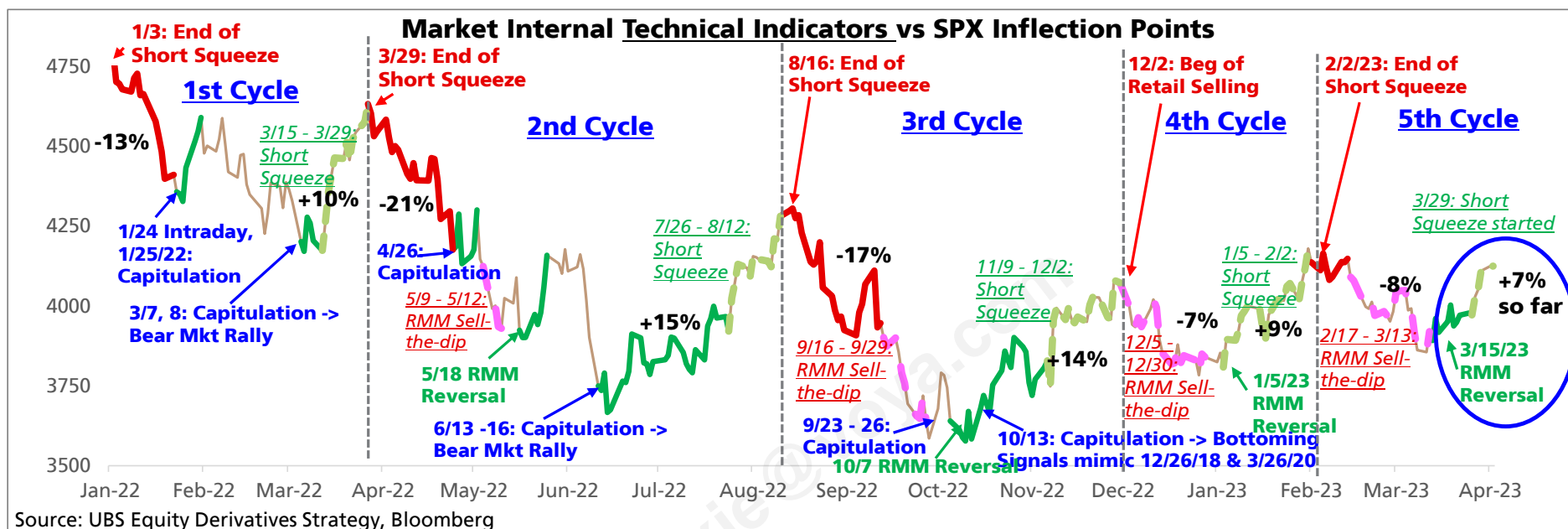
# Intraday Recovery Score turned Bearish prior to Tech Bubble & Credit Crisis



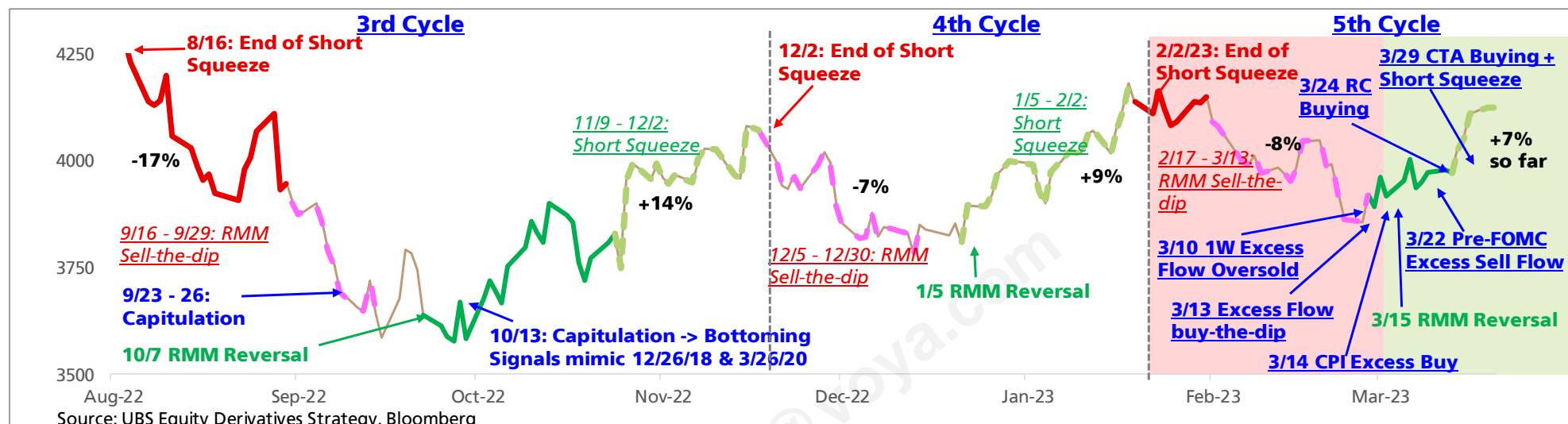
# Intraday Recovery Score has been Neutral since Nov 2021



# No Strong Directional Trend – Focus on Technical & Excess Flow Indicators



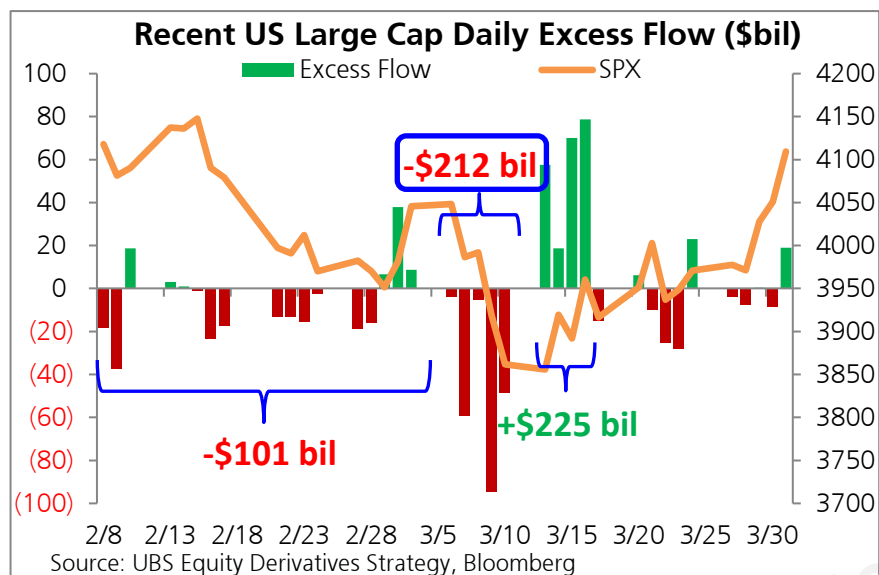
# Timeline of Bullish Signals for the Current / 5<sup>th</sup> Cycle



- **3/10:** **1W Excess Sell Flow -\$212 bil Short-term Oversold** – Implies +7.6% in 23 days => **+1.1%** further upside in **8 days**
- **3/13, 15, 16, 24:** **Excess Flow buy-the-dip** support on intraday down days
- **3/14:** **CPI Excess Buy Flow +\$19 bil** – Implies +11.1% in 23 days => **+5.9%** further upside in **12 days**
- **3/15:** **UBS RMM Flow Reversal** from Sell- to **Buy-the-dip** – Implies +9.4% in 23 days => **+3.6%** further upside in **14 days**
- **3/22:** **Pre-FOMC Excess Sell Flow -\$19 bil** – Implies +7.3% in 14 days => **+2.8%** further upside in **9 days**
- \*\*\*\*\*
- **3/24:** **Risk Control funds** started buying – Added **~4.5%/\$30 bil** in 8 days => Potential **\$50-100 bil addition** in April
- **3/29:** **CTA funds** started buying – Added **~14%/\$35 bil** in 3 days => Potential **\$50-100 bil addition** in April
- **3/29:** The anticipated **Short Squeeze** finally started – SPX **+3.5%**, UBXXSHRT **+7.7%** in 3 days => **+6-7%** further upside



# 3/10 – 1-Week Excess Sell Flow @ \$212 bil => Short-term Oversold



**Implies +1.1% further upside in 8 days**

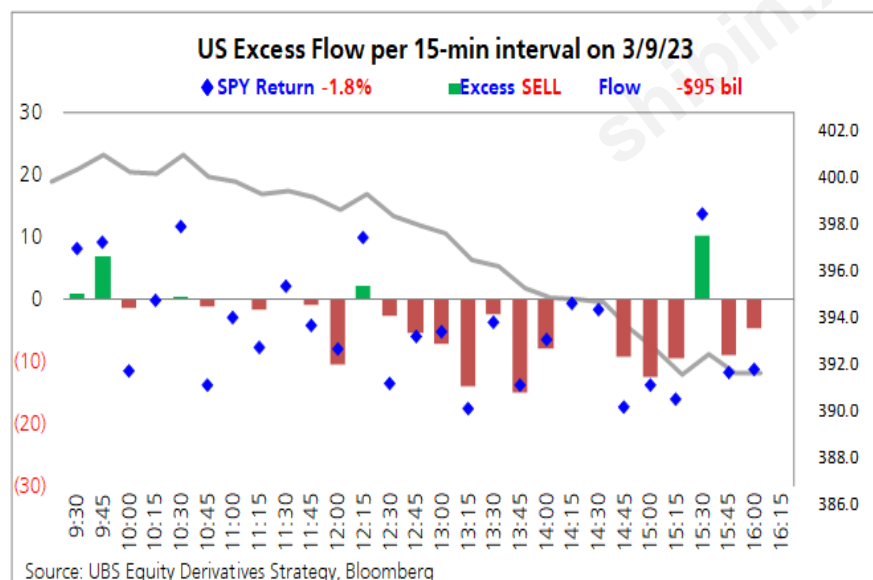
**Excess Flow Oversold Condition - 1W Excess Sell flow < -\$200 Bil**

| Date                      | 1-Week Flow  | Ret          | SPX Next 1M Low | SPX Next 1M High | SPX Ret     | End Date       | Day #     |
|---------------------------|--------------|--------------|-----------------|------------------|-------------|----------------|-----------|
| 2/5/18                    | (259)        | -7.2%        | -2.6%           | 4.9%             | 5.2%        | 3/9/18         | 23        |
| 9/4/20                    | (226)        | -2.3%        | -5.5%           | 0.0%             | 3.1%        | 10/12/20       | 25        |
| 3/24/21                   | (202)        | -2.1%        | 0.0%            | 7.6%             | 8.8%        | 5/7/21         | 33        |
| 12/1/21                   | (222)        | -4.0%        | 0.0%            | 6.2%             | 6.3%        | 1/3/22         | 22        |
| 3/11/22                   | (224)        | -2.9%        | -0.7%           | 10.2%            | 10.2%       | 3/29/22        | 12        |
| <b>Avg (All periods)</b>  | <b>(227)</b> | <b>-3.7%</b> | <b>-1.8%</b>    | <b>5.8%</b>      | <b>6.7%</b> |                | <b>23</b> |
| <b>Avg (excl Sep '20)</b> | <b>(227)</b> | <b>-4.0%</b> | <b>-0.8%</b>    | <b>7.2%</b>      | <b>7.6%</b> |                | <b>23</b> |
| <b>3/10/23</b>            | <b>(212)</b> | <b>-4.5%</b> | <b>-0.2%</b>    | <b>6.4%</b>      | <b>6.4%</b> | <b>3/31/23</b> | <b>15</b> |

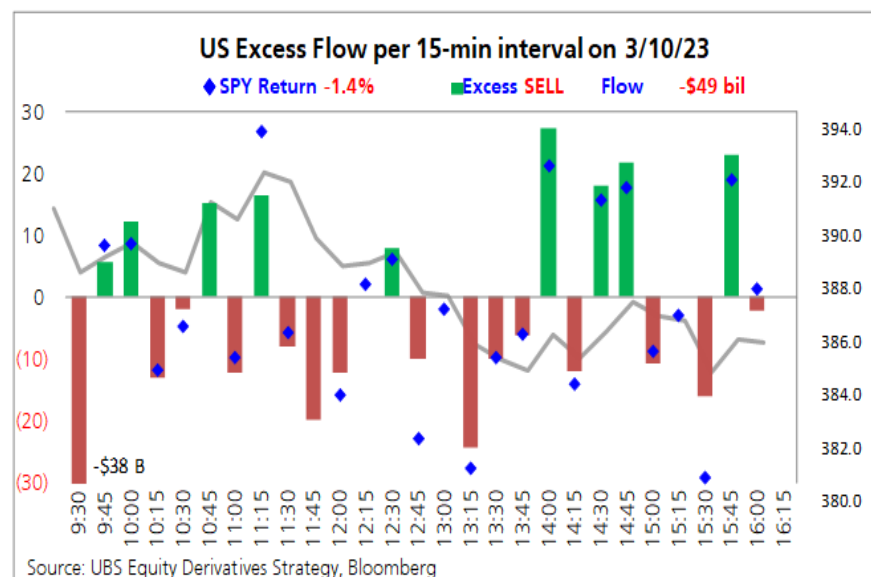
Source: UBS Equity Derivatives Strategy

Not Final End Date yet

**3/9: SVB Bank Failure News Intraday**

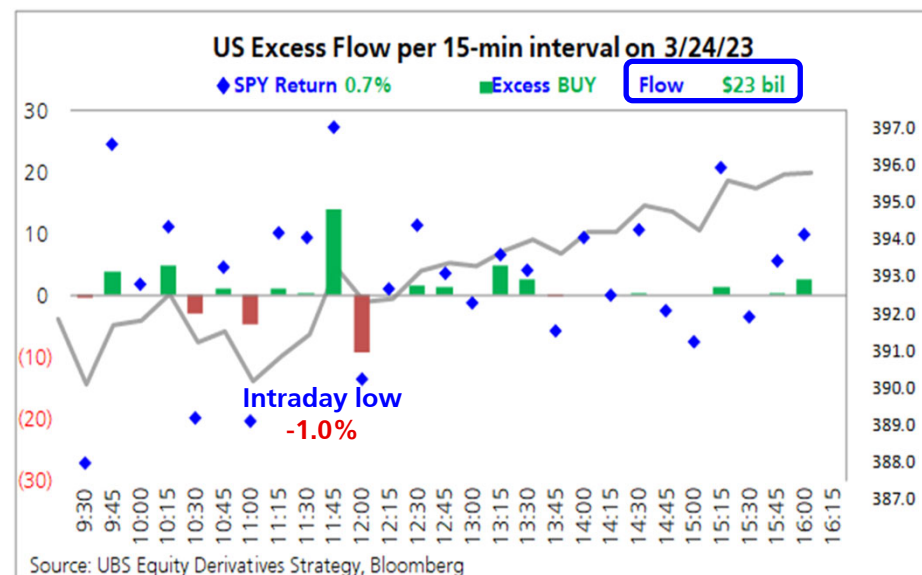
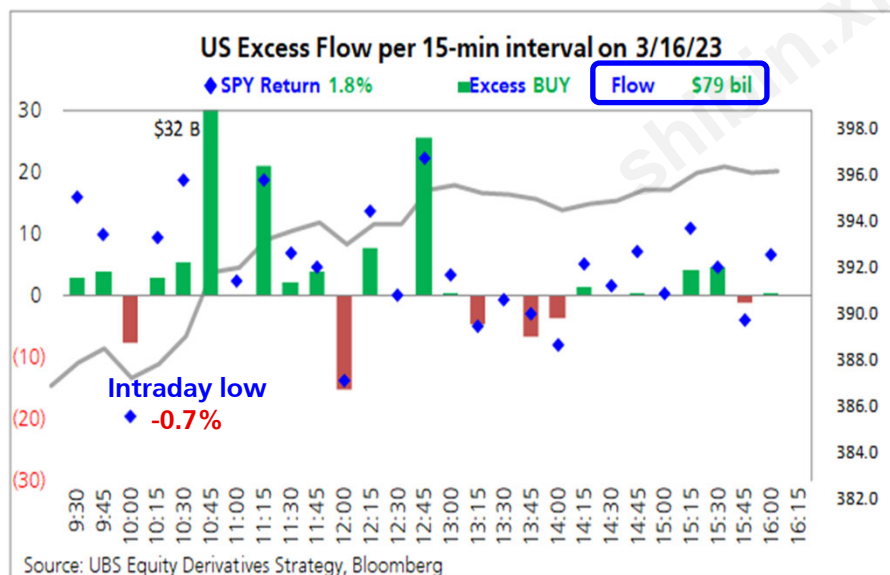
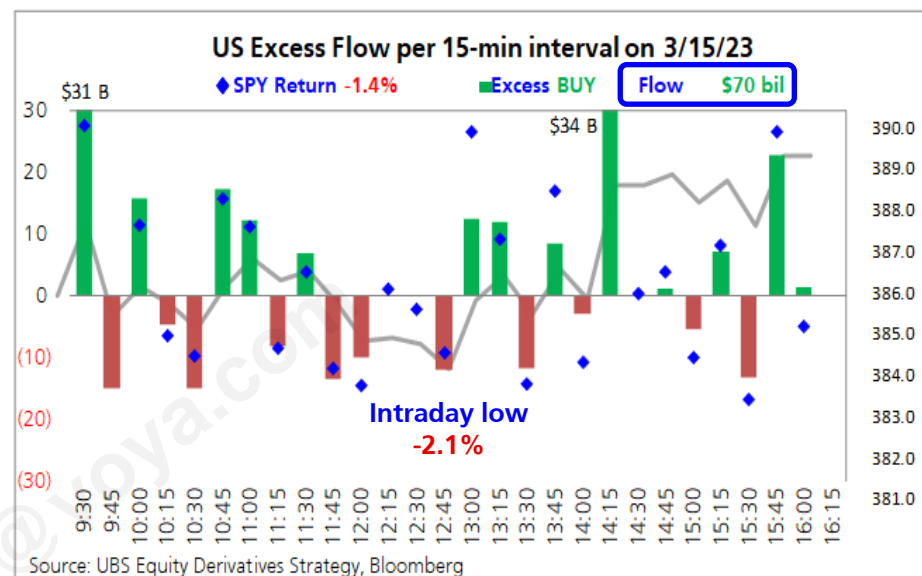
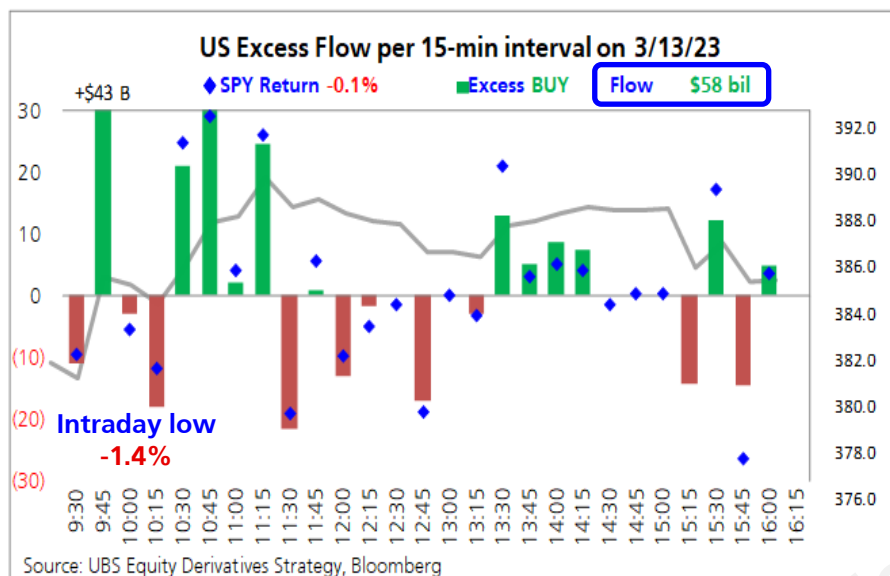


**3/10: High NFP @ 8:30a**





# 3/13, 15, 16, 24 – Excess Flow Intraday Buy-the-Dip Support



# 3/14 CPI Buy + 3/22 Pre-FOMC Sell Flows => Bullish Indicators

**Worked 18 out of 19 times since Sep 2021**

## Post-CPI Excess Flow = "Right-Way" Indicator

| CPI Day  | Post Flow | If small t add t+1 | SPX Return CPI | Next   | End Date | Day # | Max Opp |
|----------|-----------|--------------------|----------------|--------|----------|-------|---------|
| 9/14/21  | Sell      | (36)               | -0.6%          | -3.2%  | 10/4     | 14    | 0.9%    |
| 11/10/21 | Sell      | (37)               | -0.8%          | -2.9%  | 12/1     | 14    | 1.2%    |
| 12/10/21 | Sell      | (50)               | 1.0%           | -3.1%  | 12/20    | 6     | 0.0%    |
| 1/12/22  | Sell      | (12)               | 0.3%           | -8.5%  | 1/27     | 10    | 0.0%    |
| 2/10/22  | Sell      | (11)               | -1.8%          | -7.4%  | 3/8      | 17    | 0.0%    |
| 4/12/22  | Sell      | (20)               | -0.3%          | -10.6% | 5/12     | 21    | 1.5%    |
| 5/11/22  | Sell      | (10)               | -1.6%          | 6.1%   | 6/2      | 15    | -0.9%   |
| 6/10/22  | Sell      | (68)               | -2.9%          | -6.0%  | 6/16     | 4     | 0.0%    |
| 8/10/22  | Sell      | (33)               | 2.1%           | -7.2%  | 9/6      | 18    | 2.3%    |
| 9/13/22  | Sell      | (84)               | -4.3%          | -9.0%  | 10/12    | 21    | 0.3%    |
| 12/13/22 | Sell      | (86)               | 0.7%           | -5.9%  | 12/28    | 10    | 0.0%    |
| 2/14/23  | Sell      | (0)                | 0.0%           | -6.8%  | 3/13     | 18    | 0.3%    |
| Sold Avg |           | (37)               | -0.7%          | -5.4%  |          | 14    | 0.5%    |

|            |     |     |       |       |       |    |       |
|------------|-----|-----|-------|-------|-------|----|-------|
| 10/13/21   | Buy | 10  | 0.3%  | 7.7%  | 11/8  | 18 | 0.0%  |
| 3/10/22    | Buy | 21  | -0.4% | 8.7%  | 3/29  | 13 | -2.0% |
| 7/13/22    | Buy | 53  | -0.4% | 13.2% | 8/16  | 24 | -0.3% |
| 10/13/22   | Buy | 144 | 2.6%  | 11.2% | 11/30 | 33 | -2.4% |
| 11/10/22   | Buy | 65  | 5.5%  | 3.1%  | 11/30 | 13 | -0.3% |
| 1/12/23    | Buy | 3   | 0.3%  | 4.9%  | 2/2   | 14 | -2.1% |
| Bought Avg |     | 49  | 1.3%  | 8.2%  |       | 19 | -1.2% |
| 3/14/23    | Buy | 19  | 1.6%  | 4.8%  | 3/31  | 13 | -0.7% |

Source: UBS Equity Derivatives Strategy

**Not Final End Date yet**

**Worked 10 out of 10 times since 2022**

## Pre-FOMC Excess Flow = "Contrarian" Indicator

| FOMC Day                      | Prior Flow | SPX Return FOMC | Next  | End Date | Day # | Max Opp |
|-------------------------------|------------|-----------------|-------|----------|-------|---------|
| 1/26/22                       | Sell (121) | -0.1%           | 5.5%  | 2/2      | 5     | -0.5%   |
| 3/16/22                       | Sell (83)  | 2.2%            | 6.3%  | 3/29     | 9     | 0.0%    |
| 6/15/22                       | Sell (143) | 1.5%            | 3.2%  | 6/24     | 6     | -3.3%   |
| 7/27/22                       | Sell (43)  | 2.6%            | 7.0%  | 8/16     | 14    | 0.0%    |
| 11/2/22                       | Sell (50)  | -2.5%           | 8.5%  | 11/30    | 19    | -1.1%   |
| Sold Avg                      |            | (88)            | 0.7%  | 6.1%     | 11    | -1.0%   |
| 3/22/23                       | Sell (19)  | -1.6%           | 4.4%  | 3/31     | 7     | 0.0%    |
| <b>Not Final End Date yet</b> |            |                 |       |          |       |         |
| 5/4/22                        | Buy 55     | 3.0%            | -8.6% | 5/12     | 6     | 0.0%    |
| 9/21/22                       | Buy 59     | -1.7%           | -5.6% | 10/12    | 14    | 0.0%    |
| 12/14/22                      | Buy 24     | -0.6%           | -5.3% | 12/28    | 9     | 0.0%    |
| 2/1/23                        | Buy 44     | 1.0%            | -4.1% | 3/1      | 21    | 1.5%    |
| Bought Avg                    |            | 46              | 0.4%  | -5.9%    | 13    | 0.4%    |



# CPI + FOMC Combined Indicators => +3% to +6% Further Upside

## Post CPI buy flow + Pre FOMC sell flow comparisons

| CPI Day    | Flow Post | SPX Return CPI | SPX Return Next | End Date | Day #     | Max Opp      | FOMC Day | FOMC Flow Pre | FOMC Flow Post* | SPX Return FOMC | SPX Return Next | End Date | Day #     | Max Opp      |
|------------|-----------|----------------|-----------------|----------|-----------|--------------|----------|---------------|-----------------|-----------------|-----------------|----------|-----------|--------------|
| 3/10/22    | 21        | -0.4%          | 8.7%            | 3/29     | 13        | -2.0%        | 3/16/22  | (83)          | 82              | 2.2%            | 6.3%            | 3/29     | 9         | 0.0%         |
| 7/13/22    | 53        | -0.4%          | 13.2%           | 8/16     | 24        | -0.3%        | 7/27/22  | (43)          | 93              | 2.6%            | 7.0%            | 8/16     | 14        | 0.0%         |
| 10/13/22   | 144       | 2.6%           | 11.2%           | 11/30    | 33        | -2.4%        | 11/2/22  | (50)          | NM              | -2.5%           | 8.5%            | 11/30    | 19        | -1.1%        |
| <b>Avg</b> | <b>73</b> | <b>0.6%</b>    | <b>11.1%</b>    |          | <b>23</b> | <b>-1.6%</b> |          | <b>(58)</b>   | <b>88</b>       | <b>0.8%</b>     | <b>7.3%</b>     |          | <b>14</b> | <b>-0.4%</b> |
| 3/14/23    | 19        | 1.6%           | 4.8%            | 3/31     | 13        | -0.7%        | 3/22/23  | (19)          | NM              | -1.6%           | 4.4%            | 3/31     | 7         | 0.0%         |

Source: UBS Equity Derivatives Strategy

\*NM: Not Meaningful 24-hour Trend

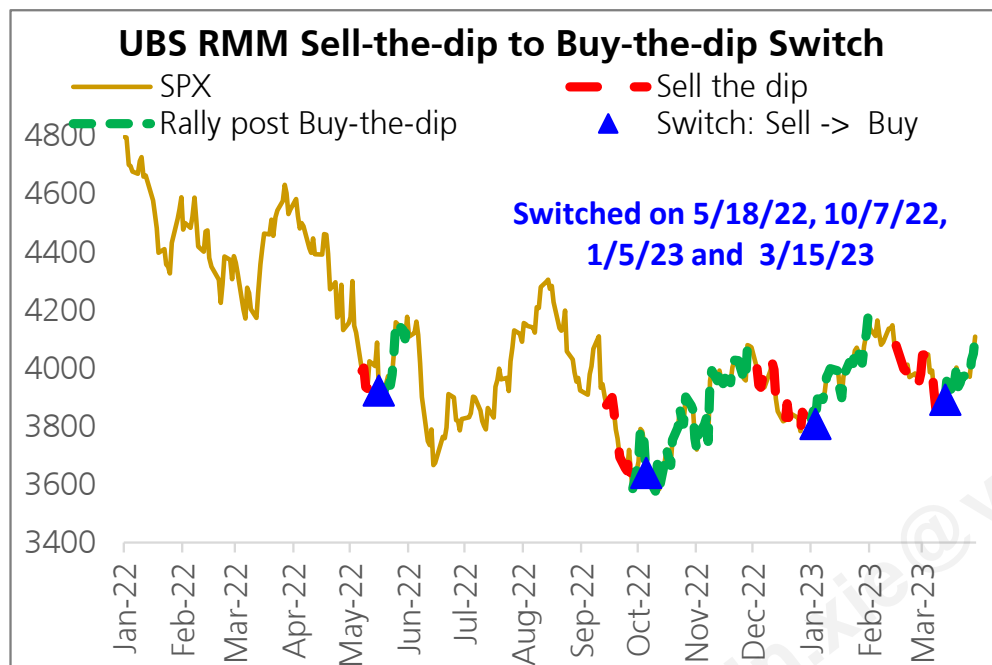
Not Final End Date yet

Implies +5.9% further upside in 12 days

Implies +2.8% further upside in 9 days

- NEXT CPI on Apr 12 (in 1.5 weeks)
- Next FOMC on May 3 (in 1 month)

# 3/15 – UBS RMM Flow Reversal from Sell-the-dip to Buy-the-dip



- RMM Clients bought the dip in all 4 intraday down periods since 3/15

Implies +3.6% further upside in 14 days

## RMM Flow switched from sell-the-dip to buy-the-dip

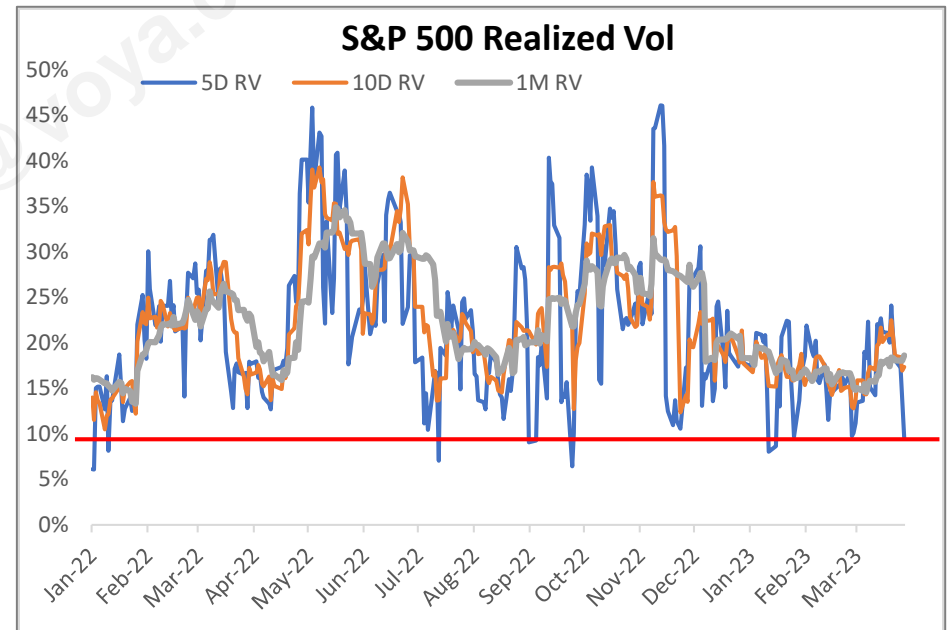
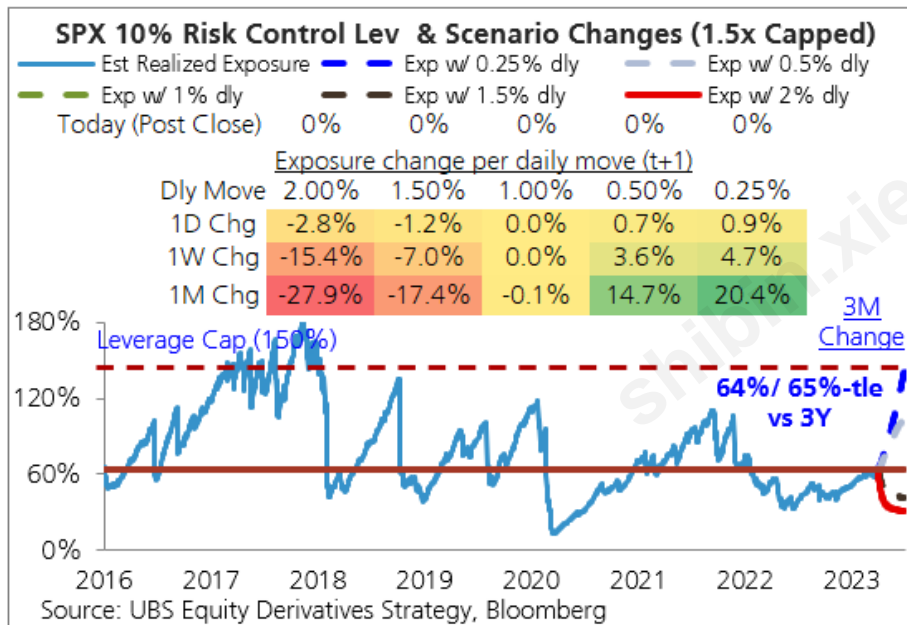
|         | Prior Sell-the-dip |        | SPX Next |       | Next 1M |      | Rally    | Day | SPX   |
|---------|--------------------|--------|----------|-------|---------|------|----------|-----|-------|
|         | Start              | # Days | 1W       | 1M    | Low     | High | End      | #   | Ret   |
| 5/18/22 | 5/9/22             | 3      | 1.4%     | -3.4% | -4.8%   | 6.5% | 6/2/22   | 11  | 6.5%  |
| 10/7/22 | 9/16/22            | 7      | -1.6%    | 3.6%  | -1.7%   | 7.2% | 11/30/22 | 37  | 12.1% |
| 1/5/23  | 12/15/22           | 7      | 4.6%     | 9.8%  | 0.0%    | 9.8% | 2/2/23   | 20  | 9.8%  |
| Average |                    | 6      | 1.5%     | 3.3%  | -2.2%   | 7.8% |          | 23  | 9.4%  |
| 3/15/23 | 2/17/23            | 6      | 1.2%     |       | 0.0%    | 5.6% | 3/31/23  | 12  | 5.6%  |

Source: UBS Equity Derivatives Strategy, Bloomberg

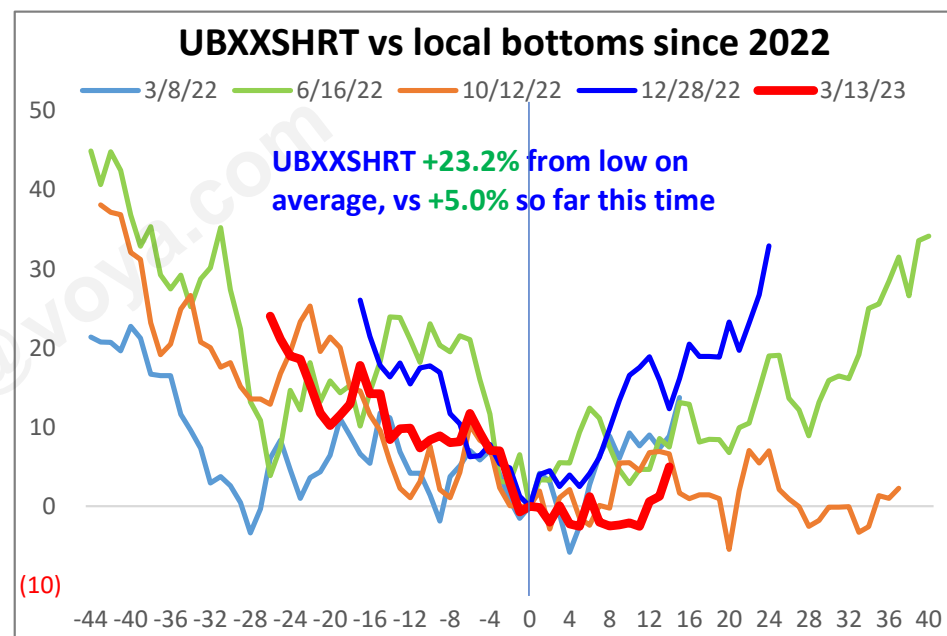
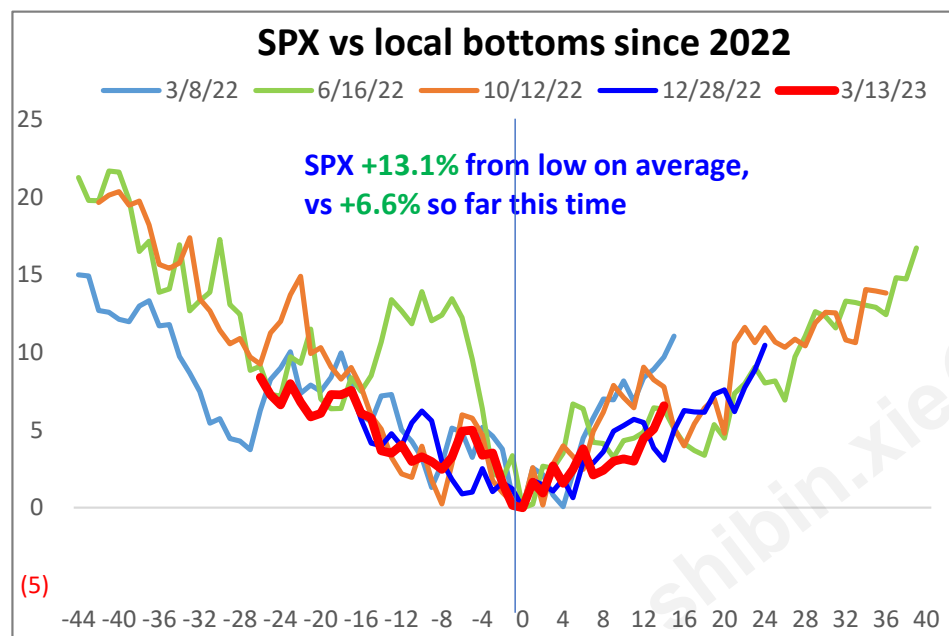
Not Final End Date yet

# Est April Buyer #1: Risk Control Buying from Falling Volatility

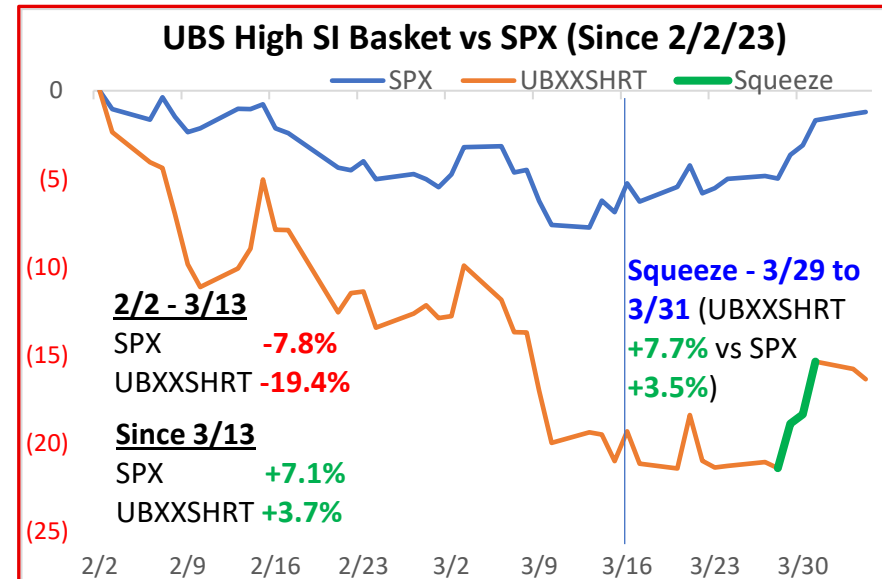
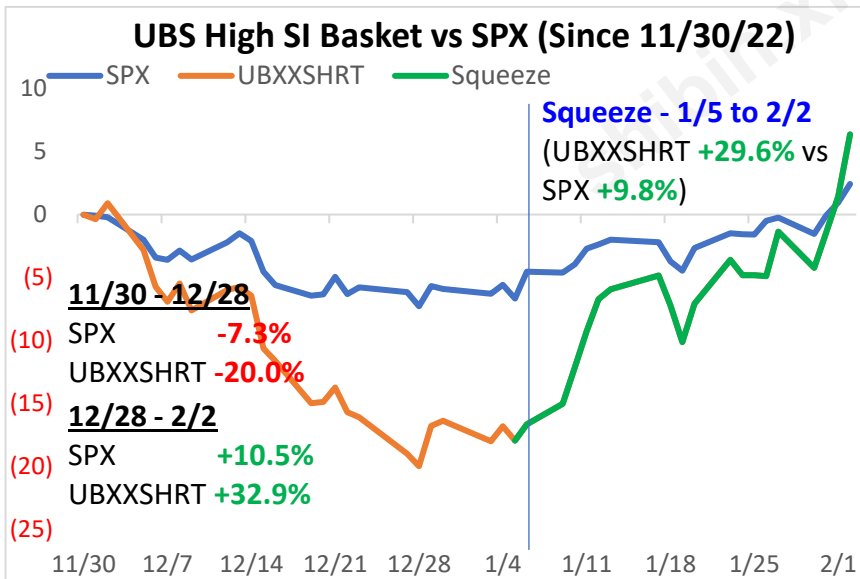
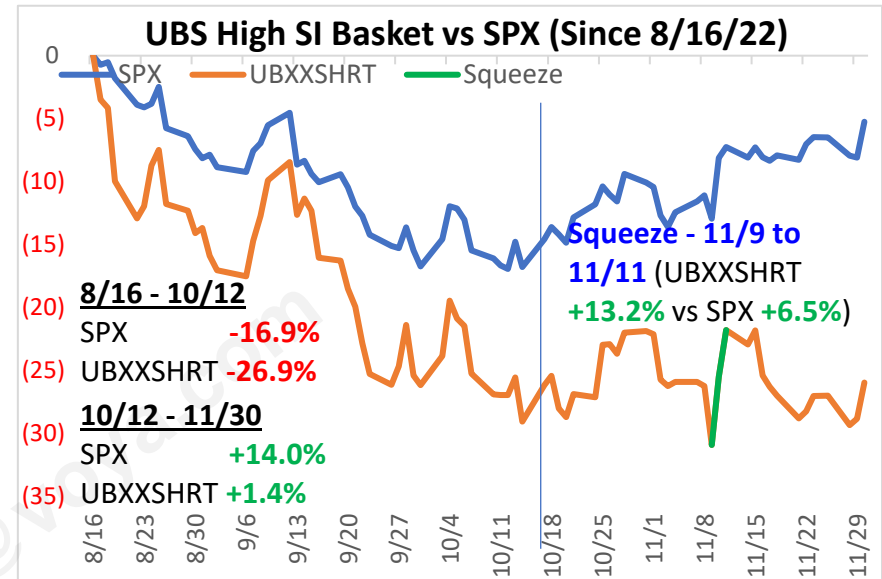
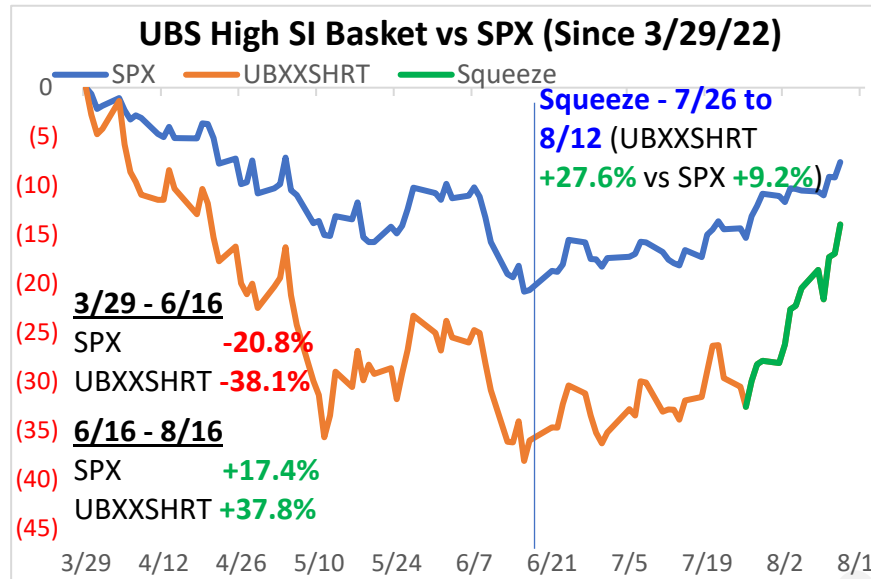
- Daily Breakeven @ **1%**
- SPX **-2%** for **1 day** => **-\$15-20 bil Selling**
- SPX **+/-1%** daily for 1 month => **+\$5 bil of buying**
- SPX **+/-50 bps** daily for 1 month => **+\$85-100 bil of buying**



# Est April Buyer #2: Short Squeeze - Both Index & Stock have further room

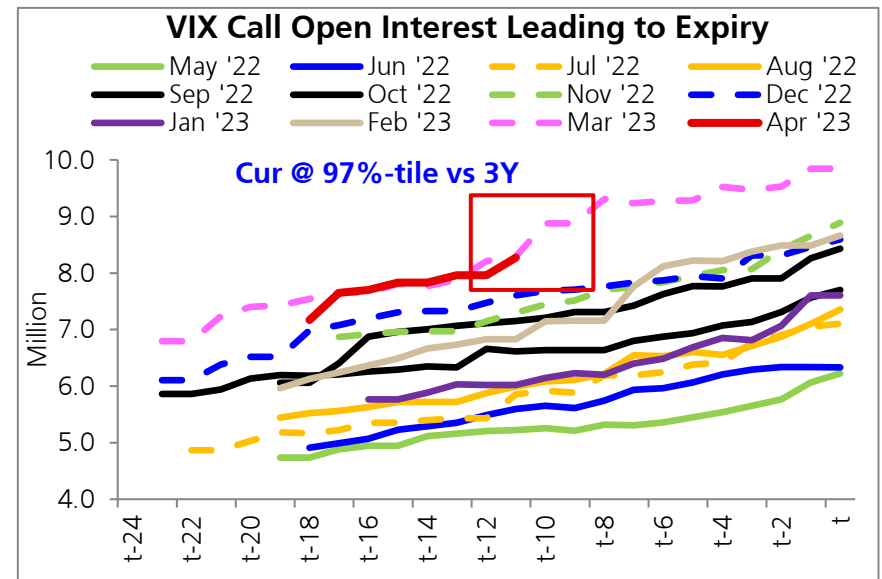
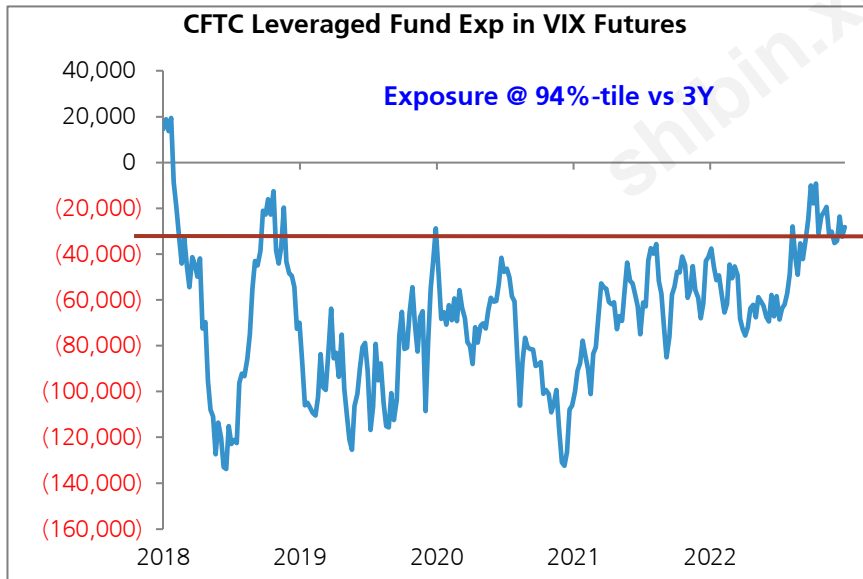
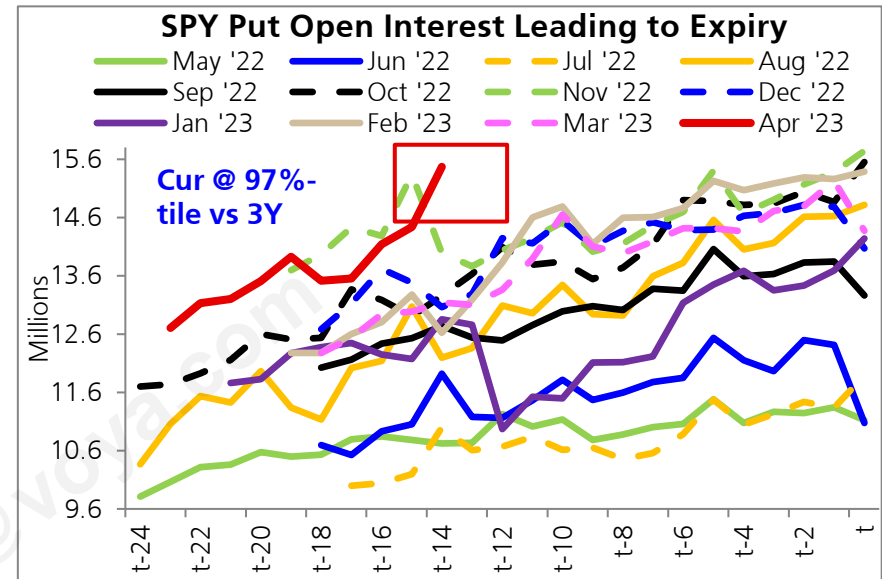
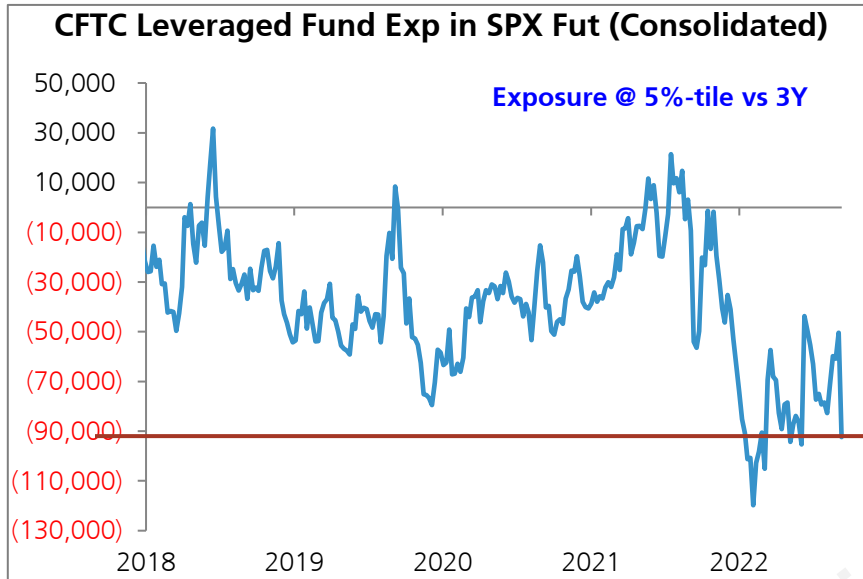


# Stock vs Index Short Squeeze Comparisons





# High Index Short Squeeze Risk: Low SPX vs High VIX Exposures



# Stock Short Interest may rise further before a Final Squeeze

**End of Short Squeeze marked by similar SI %; Followed by sell-offs in 2022**

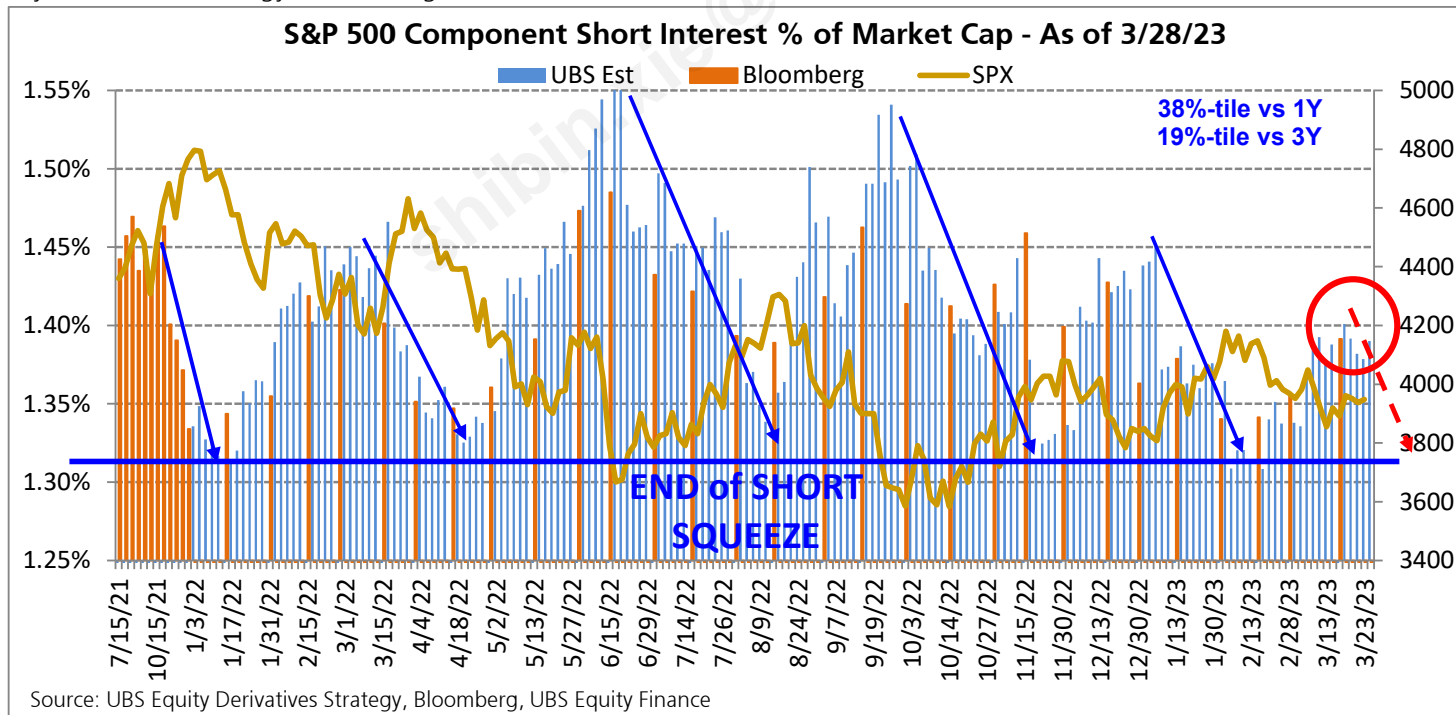
| Rally Start | Squeeze Start | Squeeze End | Date Diff | SPX Whole  | Squeeze Ret Before | Squeeze Ret During | Short Interest Start | Short Interest End | Short Interest Chg | Post Sell-off Date | Post Sell-off SPX |
|-------------|---------------|-------------|-----------|------------|--------------------|--------------------|----------------------|--------------------|--------------------|--------------------|-------------------|
| 10/4/21     | 10/29/21      | 1/3/22      | 66        | 12%        | 7%                 | 4%                 | 1.46%                | 1.33%              | -0.12%             | 3/8/22             | -13%              |
| 3/8/22      | 3/15/22       | 3/29/22     | 14        | 11%        | 0%                 | 11%                | 1.44%                | 1.35%              | -0.09%             | 6/16/22            | -21%              |
| 6/16/22     | 6/17/22       | 8/12/22     | 56        | 17%        | 0%                 | 17%                | 1.57%                | 1.34%              | -0.24%             | 10/12/22           | -16%              |
| 10/14/22    | 10/21/22      | 12/2/22     | 42        | 14%        | 2%                 | 11%                | 1.40%                | 1.33%              | -0.07%             | 12/28/22           | -7%               |
| 1/5/23      | 1/6/23        | 2/2/23      | 27        | 10%        | 0%                 | 10%                | 1.45%                | 1.31%              | -0.14%             | 3/13/23            | -8%               |
| <b>Avg</b>  |               |             | <b>41</b> | <b>13%</b> | <b>2%</b>          | <b>11%</b>         | <b>1.47%</b>         | <b>1.33%</b>       | <b>-0.13%</b>      | <b>Avg</b>         | <b>-13%</b>       |
| 3/13/23     | 3/29/23       | 4/3/23      | 5         | 7%         | 4%                 | 3%                 | 1.39%                |                    |                    |                    |                   |

Not Final Date Yet

Estimate as of 3/28

Implies +5.5% to +6.8%  
further upside

Source: UBS Equity Derivatives Strategy, Bloomberg



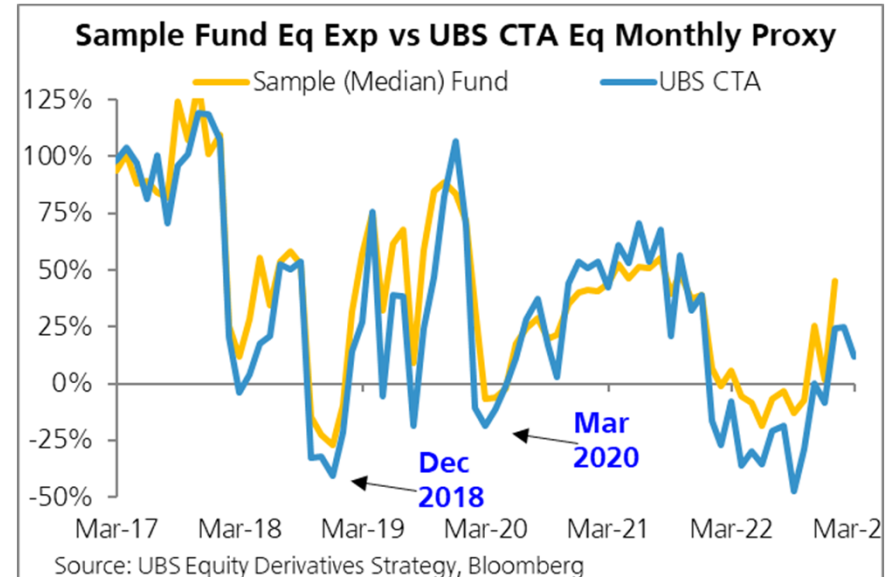
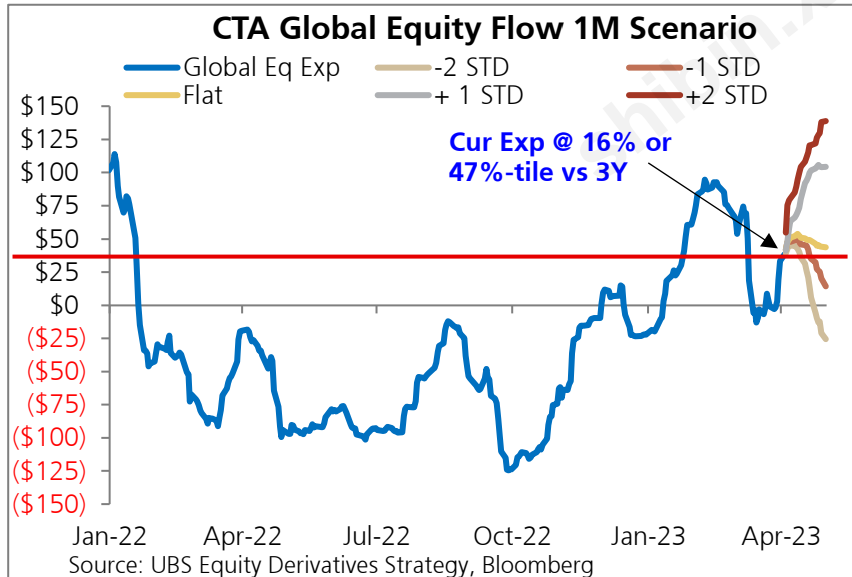
# Est April Buyer #3: CTA Funds – 1M Scenario Analysis for Global Equities

## Est CTA Flow in Global Equities based on 1M moves

|          |        |        |      |         |        |
|----------|--------|--------|------|---------|--------|
| ES1 Ref: | 3954   | 4046   | 4138 | 4230    | 4322   |
|          | -2 STD | -1 STD | Flat | + 1 STD | +2 STD |
| t+1      | \$1    | \$3    | \$3  | \$3     | \$16   |
| t+5      | \$6    | \$11   | \$14 | \$28    | \$47   |
| t+10     | (\$7)  | \$7    | \$12 | \$53    | \$70   |
| t+15     | (\$44) | (\$6)  | \$8  | \$65    | \$84   |
| t+20     | (\$64) | (\$24) | \$5  | \$66    | \$100  |

## Est CTA Flow based on Moves achieved in 1W

|     |        |        |      |         |        |
|-----|--------|--------|------|---------|--------|
|     | -2 STD | -1 STD | Flat | + 1 STD | +2 STD |
| t+1 | \$0    | \$0    | \$3  | \$2     | \$9    |
| t+5 | (\$47) | (\$6)  | \$14 | \$38    | \$72   |



# CTA Triggers in ES1 & TY1 – Both from “Risk-off” to “Risk-on”

| ES1               | 4137.50 |       |                 |       |      | UBS CTA Tracker  |       |        |         | As of 4/3/23 16:19 |          |             |       |
|-------------------|---------|-------|-----------------|-------|------|------------------|-------|--------|---------|--------------------|----------|-------------|-------|
| Signal<br>Method  | Current |       |                 |       |      | BUY / SELL Watch |       |        |         |                    |          |             |       |
|                   | Current |       | Triggered Today |       |      | Buy/Sell         |       | Spot*  |         |                    |          | MA X-over** |       |
|                   | L/S     | # Dys | Cond            | Level | Time | B/S              | # Dys | Action | Level   | vs Cur             | vs Hi-Lo | Action      | # Dys |
| New High / Low ST |         |       |                 |       |      | B                | 2     | Long   | 4191.50 | 1.3%               | 0.8%     |             |       |
| New High / Low MT | L       | 46    |                 |       |      |                  |       |        |         |                    |          |             |       |
| 1Y Momentum LT    | S       | 229   |                 |       |      | B                |       | Exit   | 4573.85 | 10.5%              | 10.0%    |             |       |
| Bollinger Band ST | L       | 2     |                 |       |      | S                |       | Exit   | 3982.50 | -3.7%              | -3.4%    |             |       |
| Bollinger Band MT |         |       |                 |       |      | B                | 2     | Long   | 4195.53 | 1.4%               | 0.9%     |             |       |
| Bollinger Band LT |         |       |                 |       |      | B                |       | Long   | 4247.58 | 2.7%               | 2.2%     |             |       |
| Bollinger Band ST | L       | 2     |                 |       |      | S                |       | Exit   | 4019.80 | -2.8%              | -2.5%    |             |       |
| Bollinger Band MT | L       | 3     |                 |       |      | S                |       | Exit   | 3989.94 | -3.6%              | -3.2%    |             |       |
| Bollinger Band LT | L       | 3     |                 |       |      | S                |       | Exit   | 3986.34 | -3.7%              | -3.3%    |             |       |
| MA Crossover ST   | L       | 2     |                 |       |      |                  |       |        |         |                    |          |             |       |
| MA Crossover MT   | S       | 7     |                 |       |      | B                | 2     |        |         |                    |          | Exit        | 2     |
| MA Crossover LT   | L       | 41    |                 |       |      |                  |       |        |         |                    |          |             |       |

| TY1               | 115.42      |       |      |        |       | UBS CTA Tracker    USGG10' 3.43   As of 4/3/23   16:19 |       |        |        |       |       |       |                    |       |
|-------------------|-------------|-------|------|--------|-------|--|-------|--------|--------|-------|-------|-------|--------------------|-------|
| Signal Method     | Current     |       |      |        |       | BUY / SELL Watch                                       |       |        |        |       |       |       |                    |       |
|                   | Current L/S | # Dys | Cond | Level  | Time  | Buy/Sell B/S   | # Dys | Action | Level  | Yield | Cur   | Hi-Lo | MA X-over** Action | # Dys |
| New High / Low ST | L           | 11    |      |        |       | S  |       | Exit   | 110.09 | 4.23  | -4.6% | -3.9% |                    |       |
| New High / Low MT | EL          | 1     | MA   | 113.31 | P Cls |  |       |        |        |       |       |       |                    |       |
| 1Y Momentum LT    | S           | 529   |      |        |       | B  |       | Exit   | 122.43 | 2.43  | 6.1%  | 5.8%  |                    |       |
| Bollinger Band ST | L           | 16    |      |        |       | S  | 6     | Exit   | 113.68 | 3.69  | -1.5% | -0.8% |                    |       |
| Bollinger Band MT | L           | 7     |      |        |       | S  | 6     | Exit   | 113.25 | 3.75  | -1.9% | -1.1% |                    |       |
| Bollinger Band LT |             |       |      |        |       | B  |       | Long   | 120.45 | 2.71  | 4.4%  | 4.1%  |                    |       |
| Bollinger Band ST | L           | 14    |      |        |       | S  | 6     | Exit   | 113.48 | 3.72  | -1.7% | -0.9% |                    |       |
| Bollinger Band MT | L           | 14    |      |        |       | S  | 13    | Exit   | 113.51 | 3.71  | -1.7% | -0.9% |                    |       |
| Bollinger Band LT | L           | 16    |      |        |       | S  | 6     | Exit   | 113.31 | 3.74  | -1.8% | -1.1% |                    |       |
| MA Crossover ST   | L           | 8     |      |        |       |  |       |        |        |       |       |       |                    |       |
| MA Crossover MT   | L           | 2     |      |        |       |  |       |        |        |       |       |       |                    |       |
| MA Crossover LT   | S           | 581   |      |        |       |  |       |        |        |       |       |       |                    |       |



# CTA Triggers across asset classes – Mostly from “Risk-off” to “Risk-on”

| Asset | Proxy Exp + |     | CUR Exp |     | BUY Watch |         | SELL Watch |         |
|-------|-------------|-----|---------|-----|-----------|---------|------------|---------|
|       | 1/5         | 4/3 | 3Y Rnk  | Chg | %         | 1st Lvl | %          | 1st Lvl |

## Risk-off => Risk-on

|              |       |       |     |      |     |      |     |       |
|--------------|-------|-------|-----|------|-----|------|-----|-------|
| S&P 500      | -1.8% | 1.5%  | 46% | 3.3% | 25% | 1.3% |     |       |
| Nasdaq 100   | -3.0% | 2.4%  | 52% | 5.4% | 8%  | 1.4% |     |       |
| Euro STOXX   | 3.4%  | 4.1%  | 70% | 0.8% | 25% | 1.4% | 8%  | -1.5% |
| DAX          | 2.8%  | 6.0%  | 83% | 3.2% | 8%  | 1.1% |     |       |
| Nikkei 225   | -3.9% | 3.9%  | 78% | 7.8% | 42% | 0.9% | 8%  | -2.1% |
| MSCI EAFE    | 2.2%  | 3.5%  | 64% | 1.3% | 33% | 0.2% | 8%  | -2.8% |
| KOSPI 200    | -4.8% | 2.2%  | 65% | 7.0% | 17% | 2.0% | 8%  | -1.8% |
| MSCI Taiwan  | -2.2% | 3.5%  | 62% | 5.7% |     |      | 17% | -2.0% |
| LQD          | -1.6% | 1.4%  | 67% | 3.0% | 42% | 0.2% | 25% | -1.9% |
| HYG          | -1.9% | -0.5% | 54% | 1.4% | 25% | 1.0% | 17% | -1.7% |
| China Copper | -1.5% | 2.9%  | 48% | 4.5% | 25% | 1.7% | 17% | -1.0% |

## Risk-off => Risk-on; but Reversal (Risk-off) Risk Building up again

|     |       |      |     |      |     |      |     |       |
|-----|-------|------|-----|------|-----|------|-----|-------|
| EUR | 4.6%  | 8.4% | 75% | 3.9% | 17% | 0.7% | 33% | -1.4% |
| GBP | -0.2% | 5.0% | 71% | 5.2% | 17% | 0.5% | 42% | -1.9% |

## CROWDED POSITIONS without Imminent Triggers

|             |       |       |     |       |     |      |     |       |
|-------------|-------|-------|-----|-------|-----|------|-----|-------|
| Bovespa     | -0.1% | -4.9% | 4%  | -4.8% |     |      |     |       |
| WTI Crude   | -2.1% | -1.3% | 12% | 0.8%  | 8%  | 3    |     |       |
| Brent Crude | -2.4% | -1.4% | 15% | 1.0%  | 8%  | 4    | 17% | -2.9% |
| Natural Gas | -0.8% | -1.1% | 3%  | -0.3% |     |      |     |       |
| Gold        | 3.4%  | 6.3%  | 94% | 3.0%  |     |      | 17% | -2.8% |
| Silver      | 2.4%  | 1.9%  | 82% | -0.5% | 17% | 0.5% |     |       |
| Cocoa       | 4.8%  | 4.8%  | 97% | 0.0%  |     |      |     |       |

| Asset | Proxy Exp + |     | CUR Exp |     | BUY Watch |         | SELL Watch |         |
|-------|-------------|-----|---------|-----|-----------|---------|------------|---------|
|       | 1/5         | 4/3 | 3Y Rnk  | Chg | %         | 1st Lvl | %          | 1st Lvl |

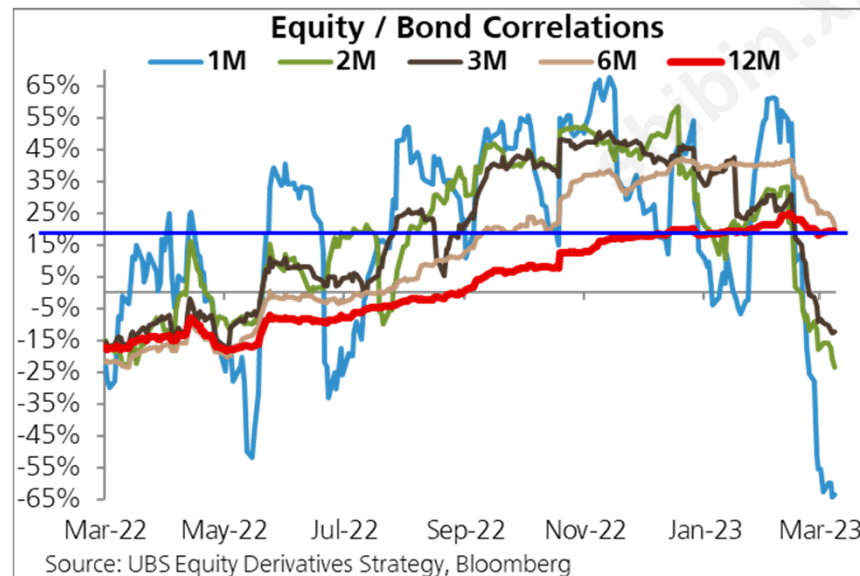
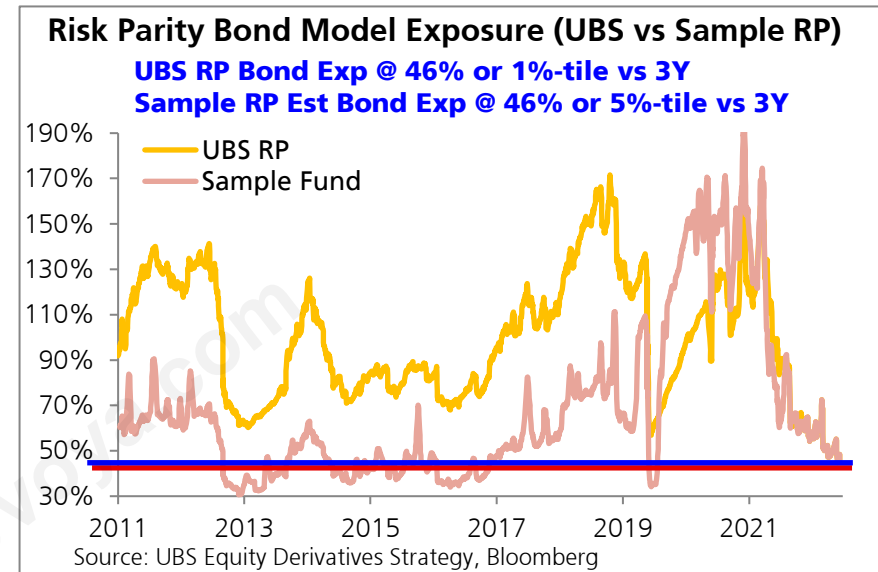
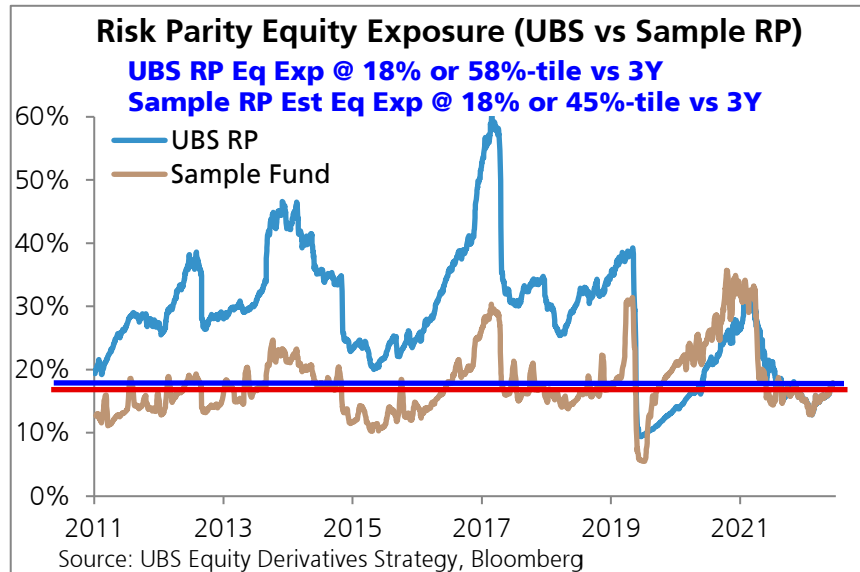
## Risk-on => Risk-off

|               |       |       |     |       |     |       |     |       |
|---------------|-------|-------|-----|-------|-----|-------|-----|-------|
| Bovespa       | -0.1% | -4.9% | 4%  | -4.8% |     |       |     |       |
| JPYUSD        | 1.5%  | 2.3%  | 72% | 0.8%  | 17% | -1.6% | 8%  | 1.1%  |
| US 30Y Bond   | -1.8% | 0.0%  | 67% | 1.8%  | 33% | 0.6%  | 25% | -1.9% |
| Euro BTP 10Y  | -5.2% | -3.9% | 39% | 1.3%  | 58% | 0.4%  |     |       |
| Euro Bund 10Y | -8.9% | -4.3% | 58% | 4.7%  | 17% | 1.3%  | 8%  | -1.6% |
| Euro Buxl 30Y | -3.4% | -2.0% | 53% | 1.4%  |     |       | 17% | -3.3% |

## Risk-on => Risk-off; but Reversal (Risk-on) Risk Building up

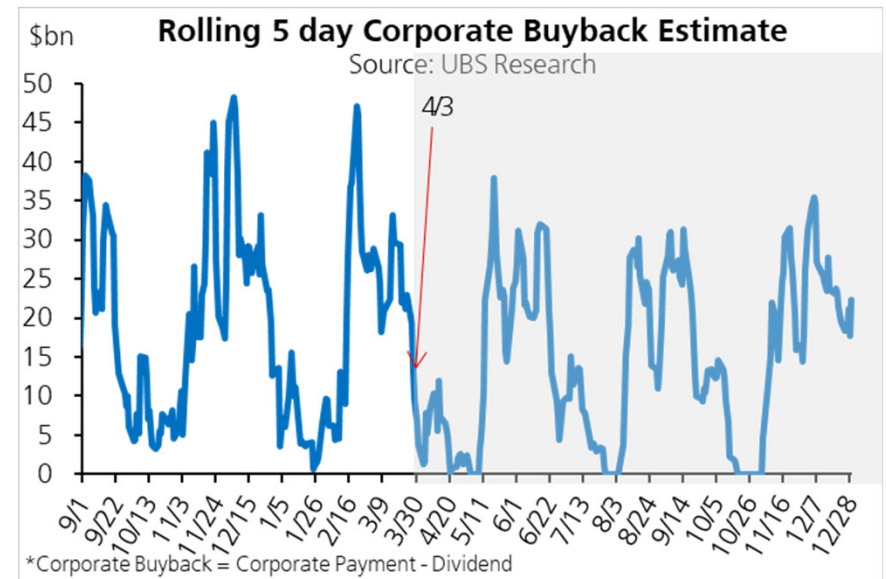
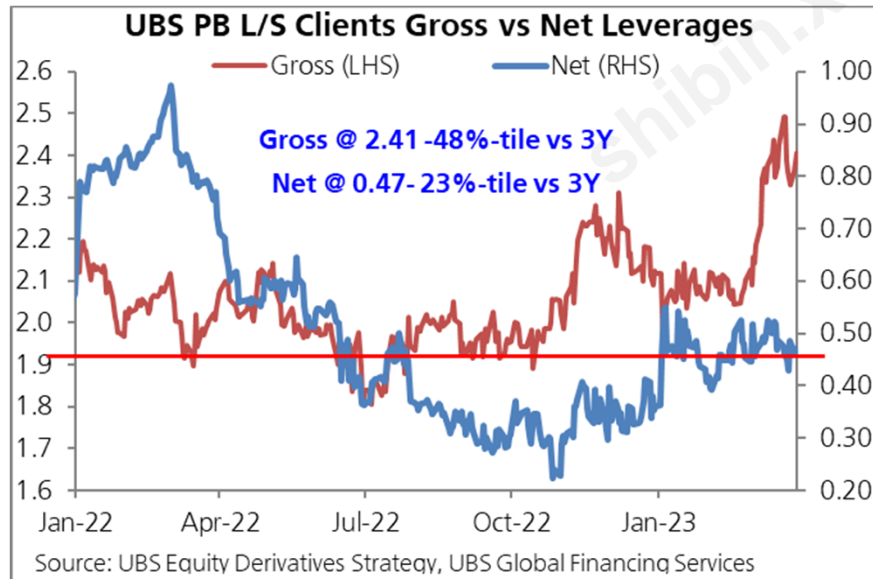
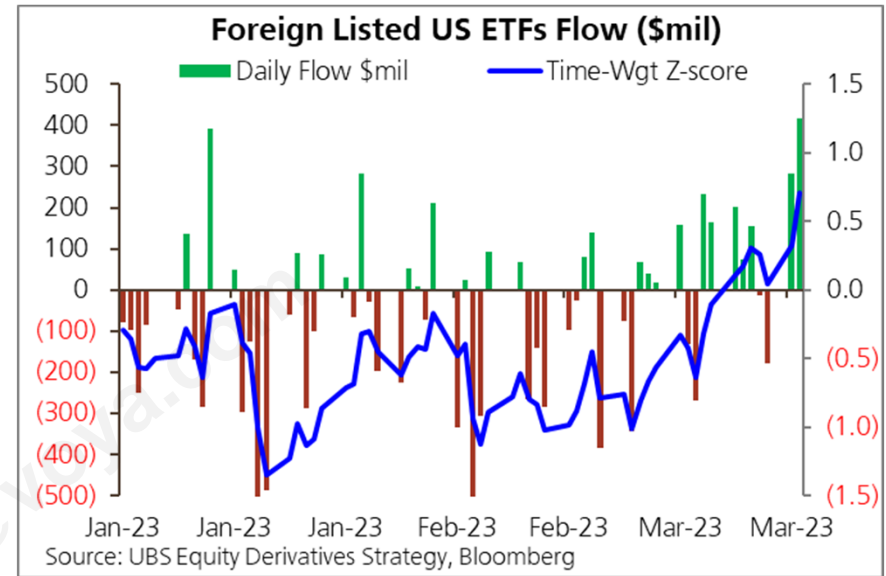
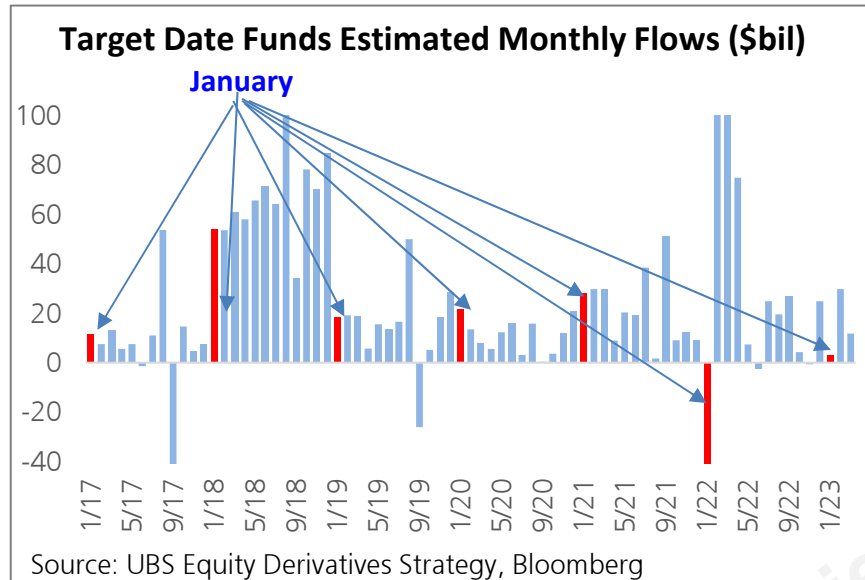
|              |        |       |     |       |     |       |     |       |
|--------------|--------|-------|-----|-------|-----|-------|-----|-------|
| Russell 2000 | -2.1%  | -2.1% | 21% | -0.1% | 17% | 2.4%  |     |       |
| S&P Midcap   | 0.2%   | -1.2% | 26% | -1.4% | 17% | 2.1%  |     |       |
| Dow Jones    | 1.9%   | -0.5% | 29% | -2.4% | 50% | 0.8%  |     |       |
| FTSE 100     | 8.0%   | 0.9%  | 38% | -7.1% | 25% | 0.9%  | 8%  | -1.6% |
| Hang Seng    | 0.5%   | -0.3% | 64% | -0.8% | 17% | 1.7%  |     |       |
| Corn         | -1.0%  | -2.2% | 14% | -1.3% | 25% | 2.7%  |     |       |
| Soybean      | 2.2%   | 0.5%  | 40% | -1.7% | 42% | 0.6%  | 17% | -1.5% |
| AUD          | 1.2%   | -3.2% | 38% | -4.4% | 42% | 0.3%  | 17% | -1.7% |
| CADUSD       | -7.1%  | -7.9% | 26% | -0.8% | 58% | -0.2% | 8%  | 2.0%  |
| US 10Y Bond  | -6.8%  | 2.3%  | 76% | 9.1%  |     |       | 42% | -1.5% |
| US 20Y Bond  | -2.5%  | 1.2%  | 75% | 3.7%  | 8%  | 1.3%  | 42% | -2.4% |
| JGB 10Y      | -30.3% | 4.4%  | 86% | 34.6% | 17% | 1.0%  | 50% | -0.3% |
| Aussie 3Y    | -41.5% | 36.2% | 70% | 77.7% | 8%  | 0.1%  | 58% | -0.2% |
| Aussie 10Y   | -37.3% | 37.1% | 82% | 74.4% | 8%  | 0.2%  | 58% | -0.2% |

# Est April Buyer #4 (at least not Seller): Risk Parity Funds



- 1M Correl @ **-64%** - lowest since Dec 2021
- 6M Correl from **+42%** in early March -> **+23%**
- 1Y Correl from **+25%** in early March -> **+19%**

# Selective Flow Support





# Trade Ideas

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## ➤ Long SPY Upside via Option

- May \$370/421/445 (90.0/102.4/108.3%) Call Spread Collar for \$3.85 or 94 bps; Max Net PO @ 5.2x
- May \$423/445 (102.9/108.3%) 1x2 Call Spread for \$3.90 or 95 bps; Max Net PO @ 4.6x

## ➤ Long IWM Upside via Option

- May \$165/183/195 (92.4/102.5/109.3%) Call Spread Collar for \$1.52 or 85 bps; Max Net PO @ 6.9x
- May \$185/194 (103.7/108.7%) 1x2 Call Spread for \$1.48 or 83 bps; Max Net PO @ 5.1x

## ➤ Long UBXXSHRT via Swap

- OBFR+40 bps, 5 bps commission

## ➤ Long IYR

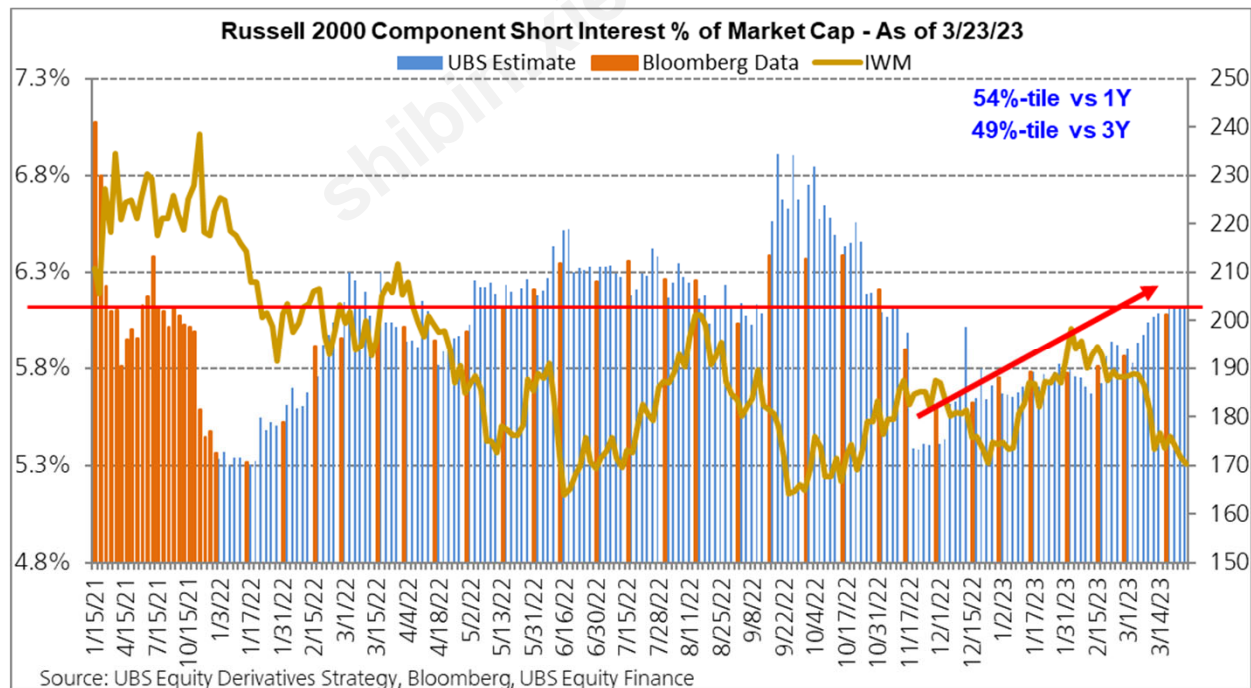
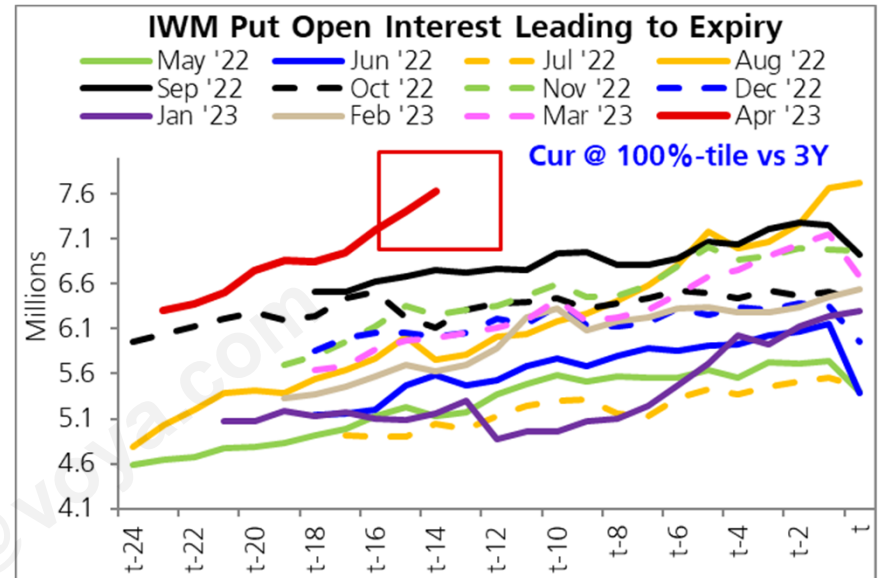
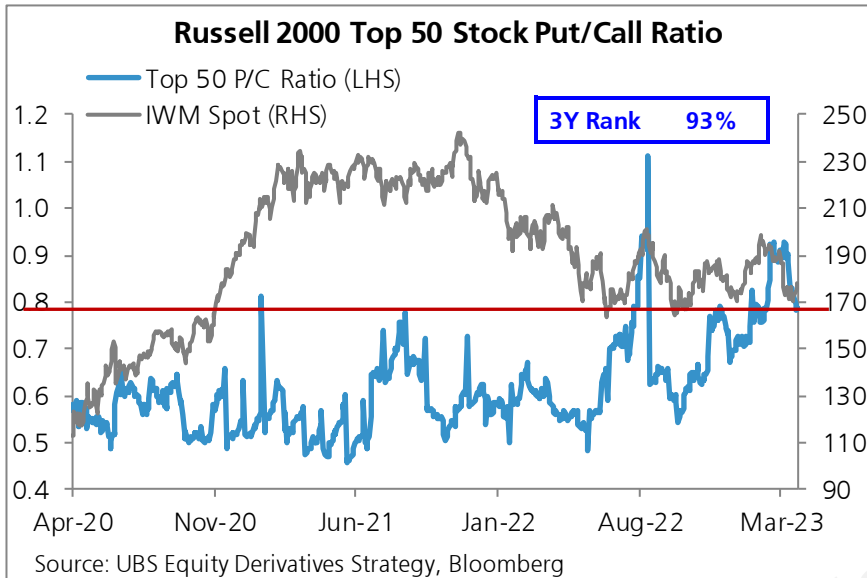
- May \$78/86/91 (92.6/102.1/108.0%) Call Spread Collar for \$0.79 or 94 bps; Max Net PO @ 5.3x

## ➤ Long Trapped Short Stocks

- Custom Basket
- Single Stock Options

## ➤ Long Defensive Equity Overlay Solution (DOES) Diversified

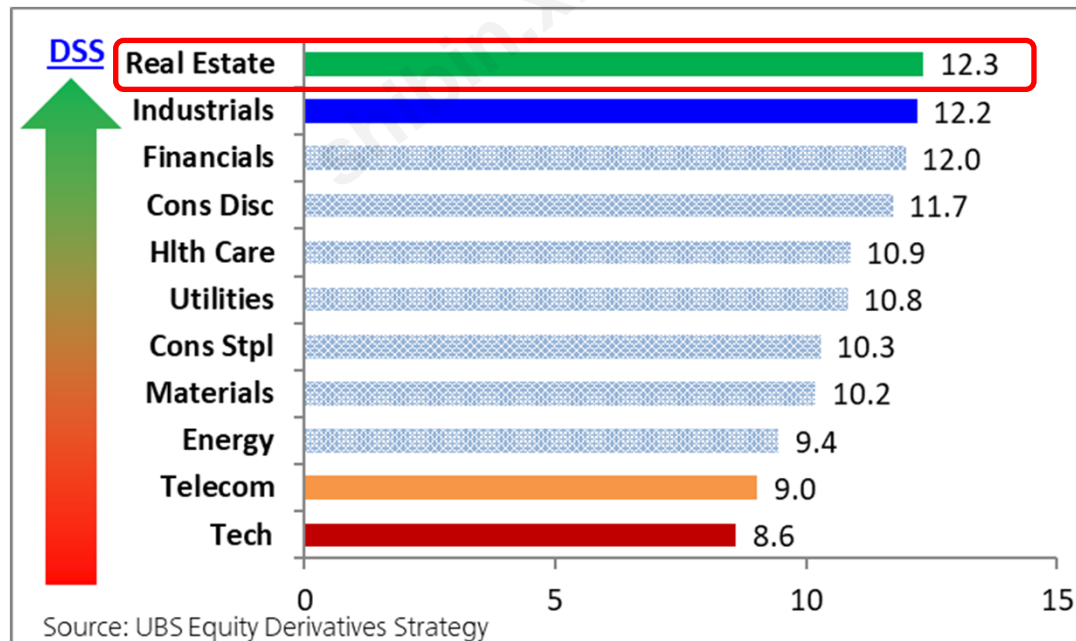
# Russell 2000 is even more Crowded Short than S&P 500



# Real Estate – Best Sector to Play Short Squeeze + Best Sector Internals

**Sector Short Positioning**

| Return                 | 2/2 - | 3/13 - | Short Int % |       |       | UBS PB Exp 3Y Rank |      |       |
|------------------------|-------|--------|-------------|-------|-------|--------------------|------|-------|
|                        | 3/13  | 4/3    | 2/2         | 3/13  | 3/28  | Net                | Long | Short |
| S&P 500                | -8%   | 7%     | 1.36%       | 1.38% | 1.39% | 23%                | 39%  | 74%   |
| Real Estate            | -13%  | 1%     | 1.92%       | 1.93% | 1.93% | 10%                | 9%   | 53%   |
| Consumer Discretionary | -11%  | 7%     | 1.99%       | 1.93% | 1.92% | 0%                 | 20%  | 1%    |
| Industrials            | -5%   | 3%     | 1.74%       | 1.76% | 1.74% | 2%                 | 23%  | 1%    |
| Materials              | -9%   | 5%     | 1.64%       | 1.72% | 1.69% | 1%                 | 2%   | 23%   |
| Energy                 | -6%   | 7%     | 1.63%       | 1.68% | 1.60% | 80%                | 85%  | 11%   |
| Utilities              | -6%   | 3%     | 1.32%       | 1.45% | 1.41% | 4%                 | 85%  | 0%    |
| Telecom                | -12%  | 5%     | 1.48%       | 1.45% | 1.39% | 27%                | 31%  | 22%   |
| Financials             | -14%  | 2%     | 1.12%       | 1.23% | 1.31% | 1%                 | 6%   | 4%    |
| Consumer Staples       | -3%   | 5%     | 1.18%       | 1.15% | 1.27% | 100%               | 87%  | 51%   |
| Health Care            | -6%   | 4%     | 1.01%       | 1.10% | 1.18% | 39%                | 41%  | 55%   |
| Tech                   | -5%   | 10%    | 1.17%       | 1.15% | 1.13% | 82%                | 52%  | 60%   |

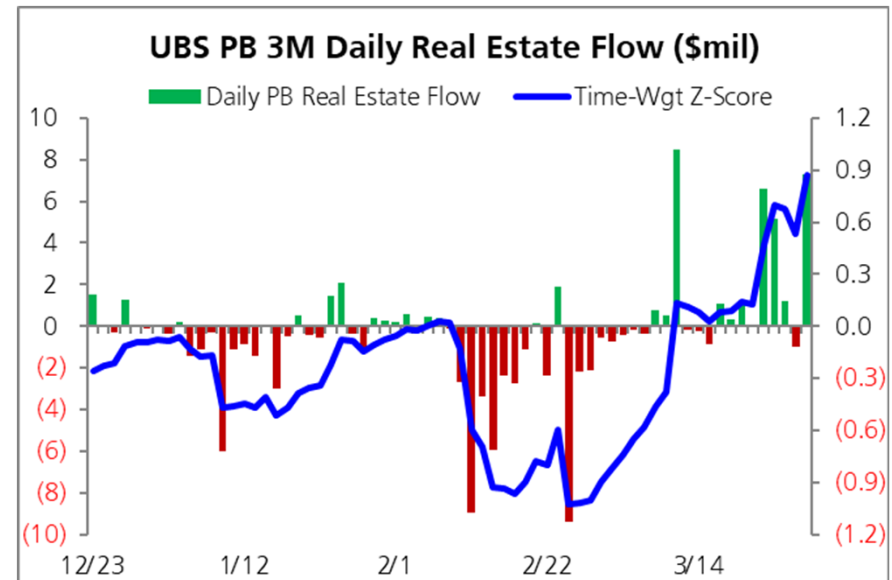
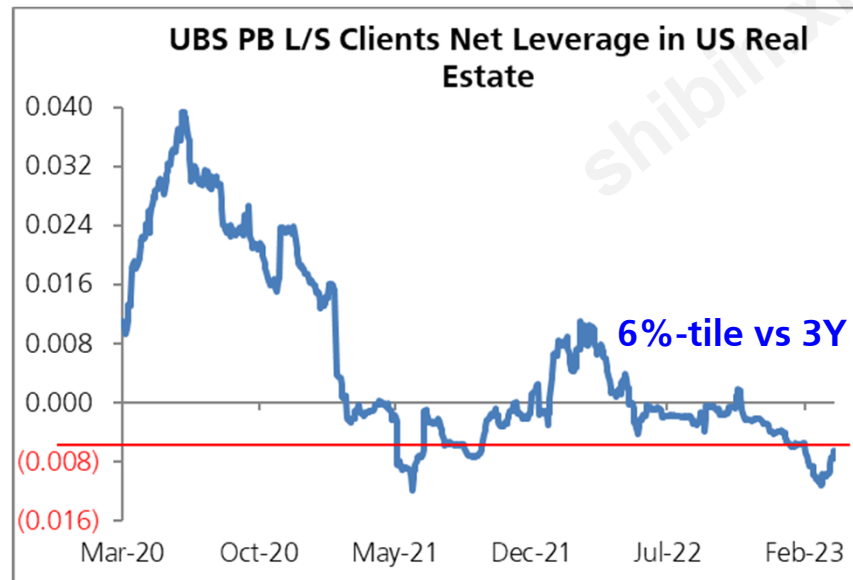
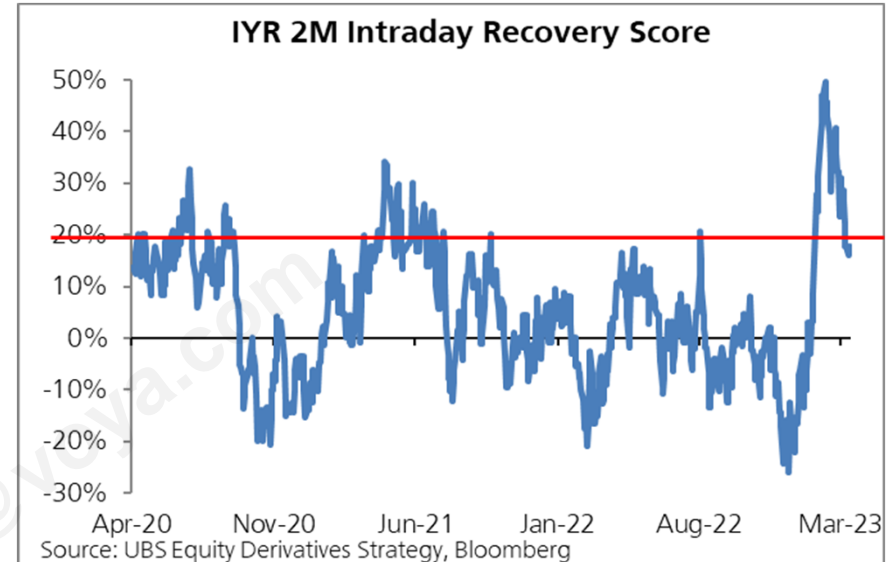


# Real Estate – % Stks < 50D MA, Excess Buy Flow + Low PB Exposure

**S5RLST Returns: 100% of SPX Real Estate Stocks < 50D MA (Since 2016)**

| Date                        | Drawdown Trigger         | % < 50D* | 2W    | 3W     | 1M    | 3M    |
|-----------------------------|--------------------------|----------|-------|--------|-------|-------|
| <b>Average (2016 -2022)</b> |                          |          | 2.9%  | 4.1%   | 4.2%  | 8.2%  |
| <b>Median (2016 -2022)</b>  |                          |          | 3.5%  | 4.5%   | 5.4%  | 6.5%  |
| <b>% of time index up</b>   |                          |          | 86%   | 71%    | 71%   | 86%   |
| 2/8/18                      |                          | 100      | 2.4%  | 1.7%   | 4.3%  | 5.1%  |
| 10/11/18                    | QE Taper, Recession Fear | 100      | 4.8%  | 4.5%   | 7.1%  | -1.0% |
| 12/24/18                    |                          | 100      | 3.7%  | 6.7%   | 9.1%  | 18.1% |
| 3/19/20                     | Covid                    | 100      | 3.2%  | 24.1%  | 20.7% | 19.9% |
| 5/20/22                     |                          | 100      | 3.5%  | -2.9%  | -8.2% | 7.6%  |
| 6/13/22                     | Stagflation Fear         | 100      | 6.7%  | 5.9%   | 5.4%  | 6.5%  |
| 9/20/22                     |                          | 100      | -4.3% | -11.6% | -9.0% | 0.9%  |
| 3/10/23                     |                          | 100      | -1.3% | 2.4%   |       |       |

\*% less than 50-day moving averages for the 1st time in 2 weeks



# Top 30 Trapped Short Stock List

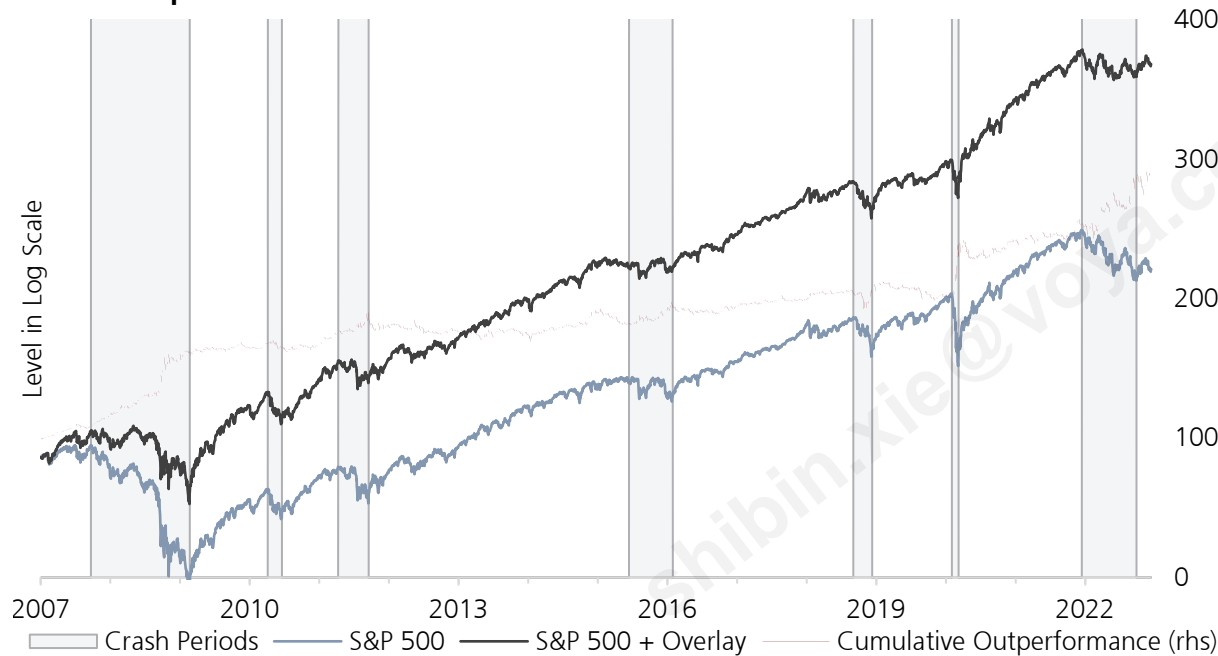
| Ticker | Name                         | GICS Industry Group | Short Int mil | %   | Dys to cove | 2/8 - 3/13 | Since 3/13 | % reco | Upside to 2/ |
|--------|------------------------------|---------------------|---------------|-----|-------------|------------|------------|--------|--------------|
| LYFT   | LYFT INC-A                   | Internet            | 52            | 17% | 2.8         | -53%       | 10%        | 7%     | 94%          |
| ETSY   | ETSY INC                     | Internet            | 15            | 12% | 3.6         | -28%       | 4%         | 12%    | 35%          |
| CVNA   | CARVANA CO                   | Retail              | 46            | 49% | 4.0         | -43%       | 32%        | 24%    | 35%          |
| OPEN   | OPENDOOR TECHNOLOGIES INC    | Internet            | 68            | 13% | 2.7         | -44%       | 38%        | 30%    | 32%          |
| UAA    | UNDER ARMOUR INC-CLASS A     | Apparel             | 23            | 12% | 2.9         | -33%       | 14%        | 27%    | 30%          |
| SIRI   | SIRIUS XM HOLDINGS INC       | Media               | 164           | 24% | 8.2         | -28%       | 9%         | 23%    | 28%          |
| VSCO   | VICTORIA'S SECRET & CO       | Retail              | 8             | 10% | 3.8         | -30%       | 11%        | 19%    | 28%          |
| DOCS   | DOXIMITY INC-CLASS A         | Software            | 10            | 9%  | 6.2         | -26%       | 8%         | 21%    | 25%          |
| SOFI   | SOFI TECHNOLOGIES INC        | Diversified Finan   | 83            | 11% | 2.4         | -26%       | 9%         | 12%    | 24%          |
| TDOD   | TELADOC HEALTH INC           | Healthcare-Servi    | 26            | 18% | 7.1         | -24%       | 6%         | 3%     | 24%          |
| CHPT   | CHARGEPOINT HOLDINGS INC     | Electrical Compo    | 51            | 19% | 4.9         | -21%       | 4%         | 14%    | 23%          |
| CCL    | CARNIVAL CORP                | Leisure Time        | 131           | 13% | 3.6         | -24%       | 8%         | 31%    | 23%          |
| NCR    | NCR CORPORATION              | Computers           | 7             | 5%  | 7.5         | -22%       | 9%         | 23%    | 18%          |
| QS     | QUANTUMSCAPE CORP            | Auto Parts&Equip    | 52            | 23% | 9.6         | -19%       | 5%         | 18%    | 18%          |
| PENN   | PENN ENTERTAINMENT INC       | Entertainment       | 13            | 9%  | 5.3         | -22%       | 9%         | 28%    | 18%          |
| CACC   | CREDIT ACCEPTANCE CORP       | Diversified Finan   | 1             | 20% | 14.8        | -20%       | 7%         | 21%    | 17%          |
| ICUI   | ICU MEDICAL INC              | Healthcare-Prod     | 1             | 5%  | 6.5         | -18%       | 4%         | 23%    | 17%          |
| LYV    | LIVE NATION ENTERTAINMENT IN | Entertainment       | 11            | 7%  | 5.8         | -17%       | 4%         | 16%    | 17%          |
| LITE   | LUMENTUM HOLDINGS INC        | Computers           | 6             | 10% | 5.5         | -18%       | 5%         | 26%    | 16%          |
| IONS   | IONIS PHARMACEUTICALS INC    | Biotechnology       | 8             | 6%  | 10.2        | -18%       | 6%         | 18%    | 15%          |
| RCL    | ROYAL CARIBBEAN CRUISES LTD  | Leisure Time        | 19            | 9%  | 5.0         | -13%       | 0%         | 5%     | 15%          |
| TFSL   | TFS FINANCIAL CORP           | Savings&Loans       | 2             | 5%  | 5.6         | -14%       | 0%         | 12%    | 15%          |
| CHTR   | CHARTER COMMUNICATIONS INC-A | Media               | 9             | 10% | 8.6         | -17%       | 6%         | 20%    | 14%          |
| COIN   | COINBASE GLOBAL INC -CLASS A | Diversified Finan   | 37            | 25% | 1.8         | -17%       | 6%         | 41%    | 14%          |
| YETI   | YETI HOLDINGS INC            | Leisure Time        | 9             | 10% | 6.8         | -15%       | 4%         | 17%    | 13%          |
| AKAM   | AKAMAI TECHNOLOGIES INC      | Software            | 11            | 7%  | 5.7         | -20%       | 10%        | 33%    | 13%          |
| TPL    | TEXAS PACIFIC LAND CORP      | Oil&Gas             | 0             | 5%  | 5.4         | -16%       | 5%         | 5%     | 13%          |
| INFA   | INFORMATICA INC - CLASS A    | Software            | 4             | 10% | 5.5         | -15%       | 4%         | 11%    | 12%          |
| CGNX   | COGNEX CORP                  | Machinery-Diver     | 5             | 3%  | 5.0         | -13%       | 3%         | 19%    | 12%          |
| NDSN   | NORDSON CORP                 | Machinery-Diver     | 1             | 3%  | 5.7         | -14%       | 4%         | 23%    | 12%          |

# Long Defensive Equity Overlay Solution (DOES) Diversified

UBS proposes a protective overlayed S&P 500 index that outperforms the benchmark across regimes with a defensive tilt

- UBS S&P 500 + Overlay provides exposure to (i) **S&P 500** and (ii) a **Defensive Overlay**
- The **Defensive Overlay** consists of (i) **Carry** (ii) **Certainty** and (iii) **Convexity** elements

Backtested performance from Jan 2007 - Dec 2022



|                                   | S&P 500     | S&P 500 + Overlay | Overlay     |
|-----------------------------------|-------------|-------------------|-------------|
| Return                            | 7.0%        | 15.3%             | 7.4%        |
| Volatility                        | 20.9%       | 17.9%             | 6.2%        |
| <b>Sharpe Ratio</b>               | <b>0.34</b> | <b>0.85</b>       | <b>1.19</b> |
| Max DD                            | -57.6%      | -36.4%            | -10.4%      |
| Return last 2Y                    | 1.7%        | 12.0%             | 10.4%       |
| Best Year Ret                     | 31.6%       | 44.0%             | 37.6%       |
| Worst Year Ret                    | -39.3%      | -14.0%            | -1.7%       |
| Best Year                         | 2013        | 2020              | 2008        |
| Worst Year                        | 2008        | 2008              | 2019        |
| <b>Calmar Ratio</b>               | <b>0.12</b> | <b>0.42</b>       | <b>0.71</b> |
| <b>Correlation to S&amp;P 500</b> |             | <b>93%</b>        | <b>-48%</b> |

|                          | S&P 500 > 10% |       |       |       |       |       |       |       |       |       | 10% > S&P 500 > -10% |       |       |       | -10% > S&P 500 |        |
|--------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-------|-------|-------|----------------|--------|
|                          | 2009          | 2010  | 2012  | 2013  | 2014  | 2016  | 2017  | 2019  | 2020  | 2021  | 2007                 | 2011  | 2015  | 2018  | 2008           | 2022   |
| S&P 500                  | 25.6%         | 14.7% | 15.3% | 31.6% | 13.2% | 11.4% | 19.9% | 28.3% | 17.5% | 28.1% | -0.3%                | 1.8%  | 0.9%  | -6.9% | -39.3%         | -19.8% |
| S&P 500 + Overlay        | 33.8%         | 15.0% | 13.9% | 30.4% | 22.7% | 14.3% | 23.3% | 26.2% | 44.0% | 34.9% | 14.0%                | 12.1% | 0.6%  | -2.6% | -14.0%         | -7.3%  |
| <b>Outperformance</b>    | 8.2%          | 0.4%  | -1.4% | -1.1% | 9.5%  | 2.8%  | 3.4%  | -2.1% | 26.6% | 6.8%  | 14.3%                | 10.3% | -0.3% | 4.3%  | 25.3%          | 12.5%  |
| <b>Av Outperformance</b> | <b>5.3%</b>   |       |       |       |       |       |       |       |       |       | <b>7.1%</b>          |       |       |       | <b>18.9%</b>   |        |

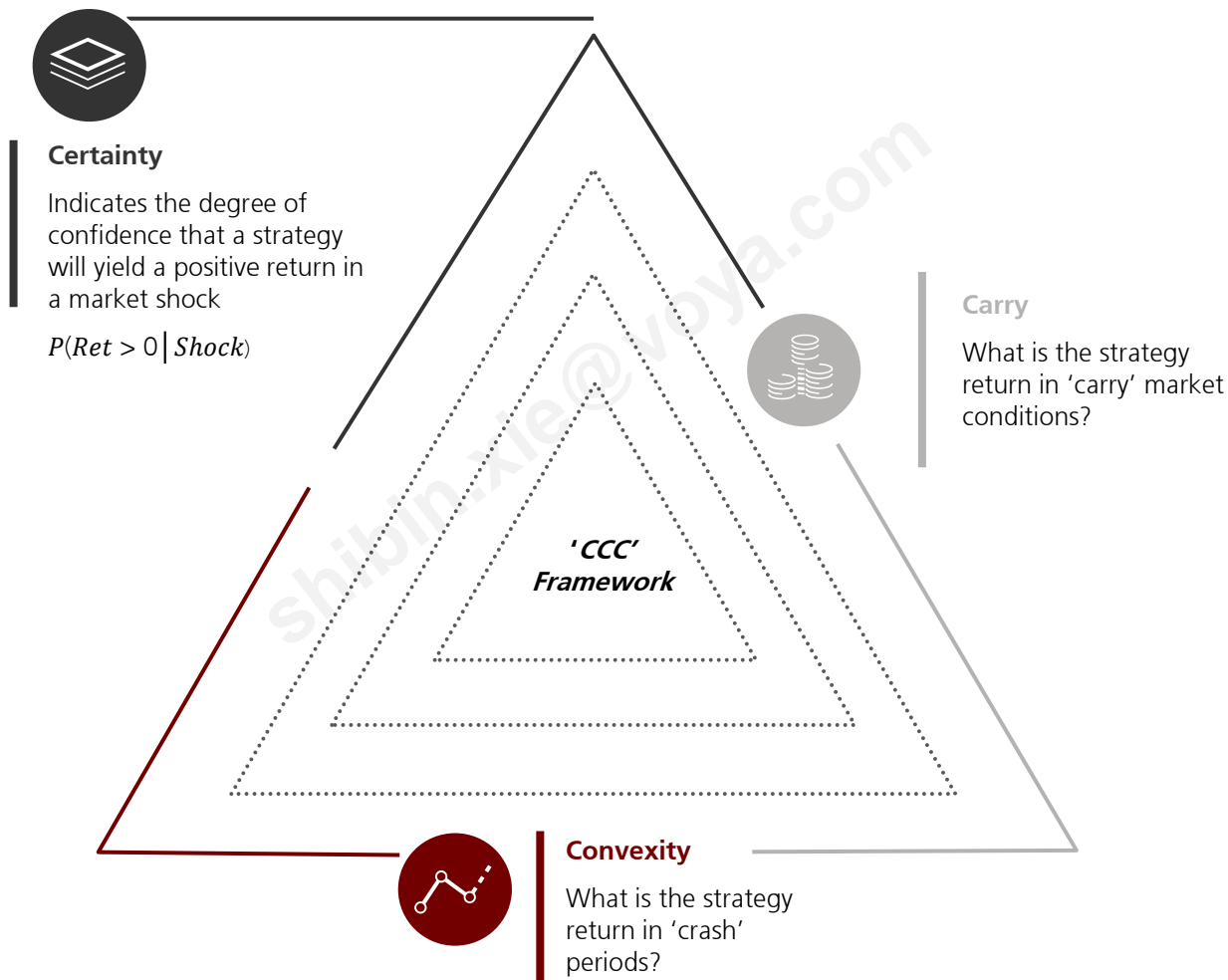
Crash Periods: Oct 2007–Mar 2009 (Global Financial Crisis), Apr 2010–Jul 2010 (European Sovereign Debt Crisis), May 2011–Oct 2011 (US credit rating downgrade), Jul 2015–Feb 2016 (Drop in oil, China instability), Sep 2018–Dec 2018 (Q4 2018 Drawdown), Feb 2020–Mar 2020 (COVID Crisis), Jan 2022–Oct 2022 (Inflation Awakening)

Source: UBS, Bloomberg. The analysis is updated as of 30 Dec 2022. This material contains data derived as a result of back-testing and is provided by UBS in good faith using standard methodology for information of this kind. Past performance is not indicative of future performance, **please refer to important back-testing disclaimer** provided in Disclaimers section. Performance shown is net of costs. S&P 500 is proxied by UISEMULE Index. 27

# UBS DOES Diversified: Criteria - Carry, Convexity, Certainty

Three metrics to classify the attributes of a strategy

## Design Parameters





# UBS DOES Diversified: The Toolkit

|                        | Strategy Description  | Why Defensive?  | When would not Protect? <sup>1</sup>                  | Strategy Weights in Overlay Portfolio |
|------------------------|---|---|---|---------------------------------------|
| <b>Put Spread</b>      | Purchasing 12 month 95/85 put spreads on S&P 500  | Structural hedge  | Equity markets rally ahead of a crash                 | <b>100.00%</b>                        |
| <b>ConVIXity</b>       | Buying long VIX calls financed by selling S&P 500 puts  | Structural hedge over implied volatility spike regimes            | Implied volatility does not react to market drawdown  | <b>25.00%</b>                         |
| <b>Commodity Carry</b> | (i) COSI: short (long) near (diversified basket of far) dated futures<br>(ii) CABNS: short (long) near (further) dated futures in a beta neutral manner | Curves steepen during commodity market drawdowns                  | Commodity markets rally while equity markets sell off | <b>57.50%</b>                         |
| <b>Rates Carry</b>     | Selling 3m30y ATM straddles and buying part of the gamma via 3m10y ATM straddles  | Long straddles act as a risk mitigant (capturing trend in rates)  | Rates mean revert during market drawdown              | <b>28.75%</b>                         |
| <b>EM FX Trend</b>     | Trend-following algo on a diversified portfolio of EM currencies  | Capturing negative trend in EM FX during flight to quality events | EM FX mean revert during market drawdowns             | <b>28.75%</b>                         |
| <b>Short Variance</b>  | Selling 1-Week Variance Swap in US and EU equity market to capture the implied volatility premium   | No defensiveness, pure carry                                      |   | <b>10.00%</b>                         |



Source: UBS. For illustrative purpose only. COSI refers to the UBS Commodity Short Spreads Carry Strategy and CABNS refers to the UBS Commodity Alpha Beta-Neutral Strategy. <sup>1</sup>This list of scenarios in which each strategy may not protect is not exhaustive.

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