J.P. Morgan Global Data Intelligence

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Through the Retail Lens is a new <u>JPM Data Intelligence</u> product focusing on one of the most topical themes in the US equity market since the start of the pandemic - retail trading activity. The product combines proprietary and high frequency retail flow data from our QDS research colleague <u>Peng Cheng</u>, with our NLP analysis on retail social media activity, both at a market & single stock level.

We are offering a free trial of our daily retail dataset, which provides insight into stocks potentially most vulnerable to a retail-induced 'Squeeze'. For those subscribing to the data set, we can also offer a 6 month historical feed for back-testing purposes. Please <u>reach out</u> to discuss.

What does the *Through the Retail Lens* dataset cover?

- 1) Social media volume and sentiment data (*JPM Data Intelligence*) daily snapshot of stocks discussed on social media (including Reddit / Wallstreetbets), along with number of mentions and sentiment based on NLP analysis. Using this data we have also created two short-term long only strategies which have delivered a Sharpe of c.2x this year (see below for a quick summary, and Appendix for further details). Historical feed for number of mentions, sentiment and strategy also available (last 6 months).
- **2) Retail predicted trades data (***Peng Cheng, QDS Research***)** daily feed of predicted retail trades for over 5000 single stocks + 2500 ETFs. Historical feed also available (since 2015).
- 3) Retail risk of a squeeze screen (*JPM Data Intelligence and Peng Cheng, QDS Research*) a combination of the data sets above in order to present a daily stock screen of long ideas based on positive weekly social sentiment and net retail inflows. Stocks are marked 'Y' if they also satisfy the criteria for our short-term long only strategies above.

Backtest details for 2x short-term long only strategies based on US retail social media sentiment, flows & price momentum

| Strategy (backtest since 15 Feb '21) | Net Sharpe (annualized) | Total P&L | Max Drawdown | Hit rate | Avg profit per trade | Total # of trades |
|--|----------------------------|-----------|-----------------|-------------|-------------------------|----------------------|
| Large number of mentions on social media | 1.8x | 124.1% | -19.9% | 39.5% | 0.76% | 286 |
| Social media mentions plus price momentum | 2.1x | 86.1% | -34.4% | 41.9% | 1.01% | 155 |

Note: All results are after transaction costs (20bps per trade) Source: JPMorgan Data Intelligence, JPMorgan Quantitative & Derivatives Strategy Research

What are the datasets currently telling us?

Below we discuss 6 key trends and observations from the US retail activity data:

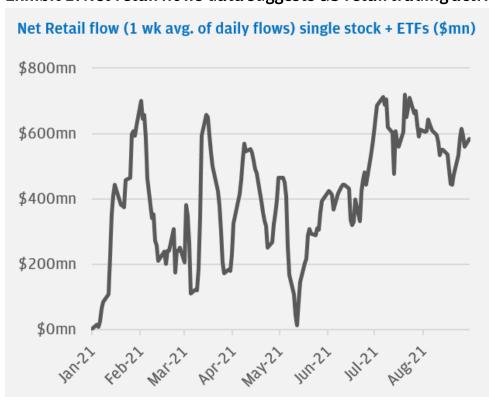
1) Retail investors turned incrementally less constructive on US equities through early August

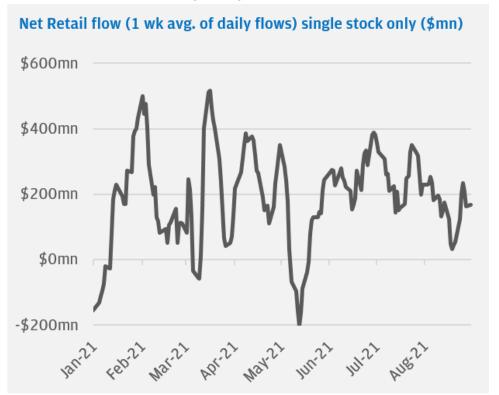
Retail investors bought incrementally less US equities through early August, with the tail-off driven by single stocks (rather than ETFs). As such, the rate of retail net buying fell back to c. Q2 2021 levels, having been elevated in June-July this year. Having said that, last week we saw a slight pick-up in activity.

Our high frequency retail sentiment data tracked by capturing # of posts on Reddit/wallstreetbets (WSB) reflects a similar message. Reddit/wallstreetbets (WSB) post volumes were just 320 last week and 287 the week prior, down from 526 in early June.

Given strength in crypto markets through August, investors may have shifted out of single stock equities and into crypto assets. Note retail investors have recently added to their bitcoin cash positions (Source: Vanda Research).

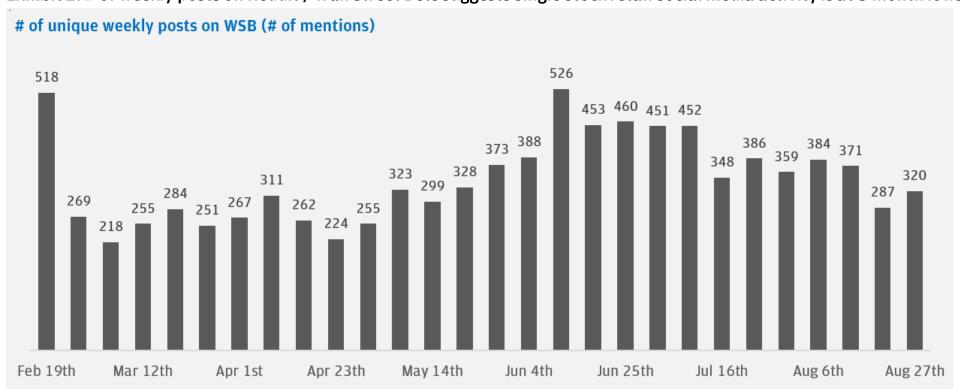
Exhibit 1: Net retail flows data suggests US retail trading activity lost momentum through August





 $Source: JPMorgan\ Quantitative\ \&\ Derivatives\ Strategy\ Research, JPMorgan\ Market,\ Data\ \&\ Positioning\ Intelligence$

Exhibit 2: # of weekly posts on Reddit / Wall Street Bets suggests single stock retail social media activity is at 3 month lows

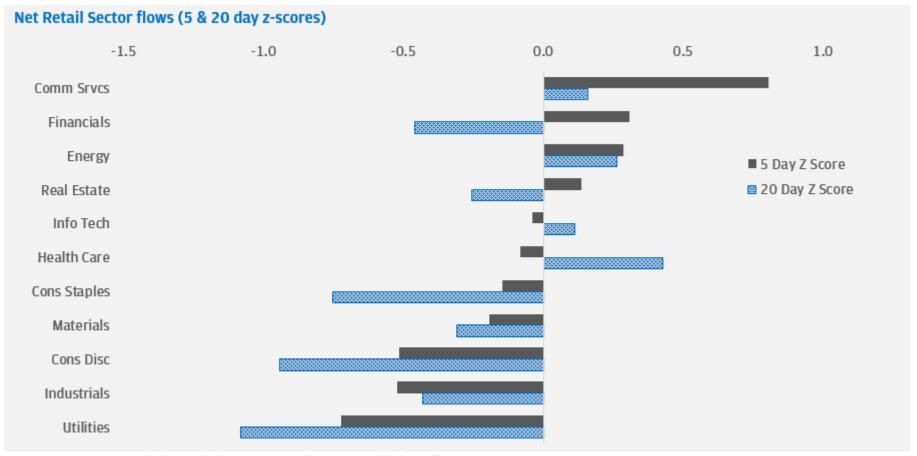


Source: JPMorgan Market, Data & Positioning Intelligence

2) At a sector level, Communication services, Financials and Energy were the most bought last week...

At a sector level the retail investor looks to have most bought Communication Services, Financials and Energy last week, vs most sold Utilities, Industrials and Consumer Discretionary.

Exhibit 3: Comm Services, Financials and Energy were among the most bought sectors by US retail investors last week.

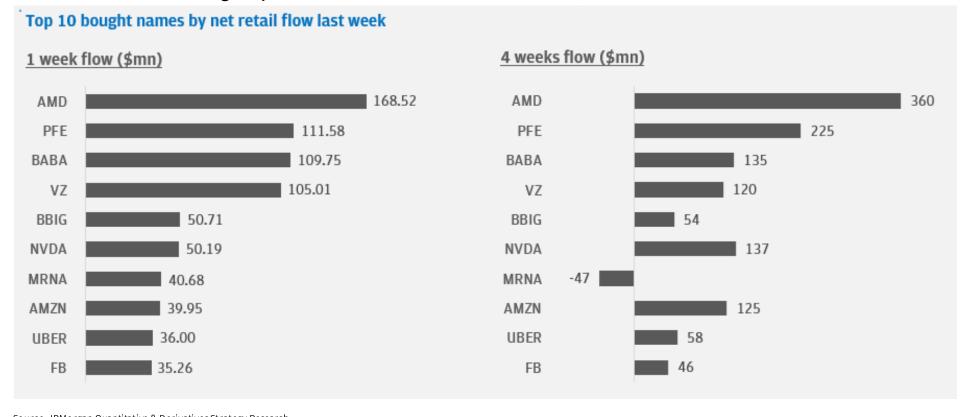


Source: JPMorgan Quantitative & Derivatives Strategy Research, JPMorgan Positioning Intelligence

...while at a single stock level, AMD, Pfizer and Baba were the most bought

At a stock level the retail investor most bought AMD, PFE, BABA vs most sold AAPL, SAVA, BAC.

Exhibit 4: Stocks most bought by retail investors last week included AMD, PFE & BABA...



Source: JPMorgan Quantitative & Derivatives Strategy Research

Exhibit 5: ...while stocks most sold included AAPL, SAVA & BAC

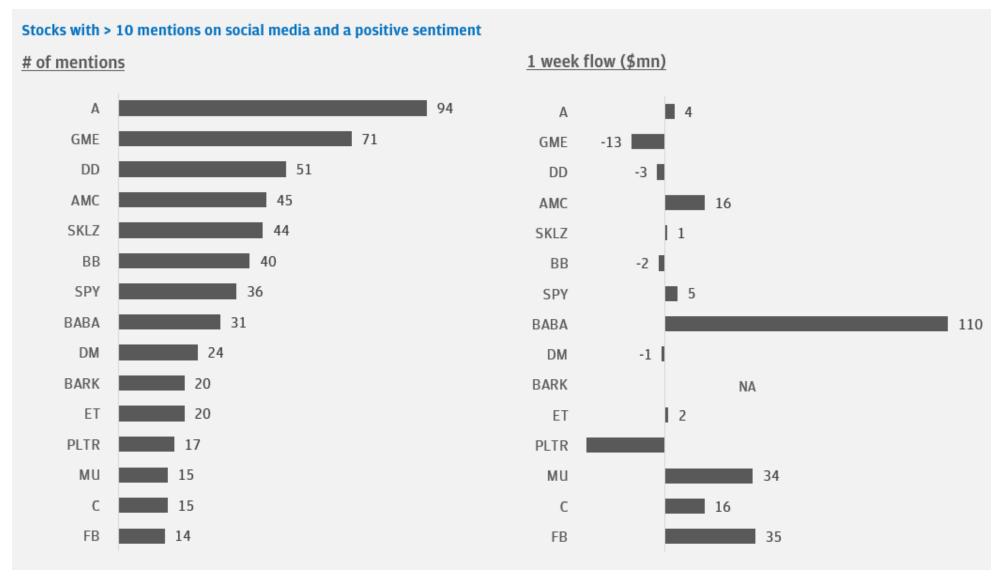


Source: JPMorgan Quantitative & Derivatives Strategy Research

3) Looking at social media sentiment, Agilent, Gamestop and Dupont de Nemours were among the most mentioned with positive sentiment last week.

Agilent, Gamestop and Dupont de Nemours were among the most mentioned with positive sentiment last week. Alibaba, Micron Technology and Facebook were mentioned with positive sentiment and witnessed outsized retail inflows.

Exhibit 6: Stocks most discussed on social media and with a positive sentiment last week include A, GME, DD.



Source: JPMorgan Quantitative & Derivatives Strategy Research, JPMorgan Data Intelligence

4) Popular retail trades saw strong outperformance vs the S&P500 last week

Our Popular retail baskets had a strong run last week and outperformed the S&P500. Our US Social Sentiment Leaders basket (BUZZ US) was the best performer on the week rallying by +3.8% vs S&P500 up +1% last week. The US Most Shorted stocks basket (JPTASHTE), which has rallied by > 30% YTD rose another +2.9% last week, and *Peng Cheng's* Popular Retail Longs basket (JP1BRPOP) was up by +2.2%.

Exhibit 7: Performance of Retail baskets vs S&P 500



Source: JPMorgan Market, Data & Positioning Intelligence

5) Within our daily Retail 'Risk of a Squeeze' screen Applied Materials and Original BARK stand out among others

Our daily retail risk of a squeeze screen shows stocks with potential to outperform as a result of retail buying. The screen reflects long ideas based on positive weekly social sentiment and net retail inflows. **Applied Materials** and **Original BARK** stand out this week, among others. Within this list, note **AMC** and **Skillz** also satisfy the criteria for one of our short-term long only strategies.

Below is a snapshot of the screen. *Please email us* <u>here</u> if you would like to access the full screen or short-term strategies on a daily basis.

Exhibit 8: Retail 'Risk of a Squeeze' screen

| | | | | US retail social media sentiment | | | US retail flows | | Long strategies | | |
|--------|------------------|------------------------|----------------------|----------------------------------|-----------------------------------|---|---|---|--|---------------------------------|--------------------------------|
| Ticker | Company Name | Sector | Market Cap (\$bn) | Weekly number of mentions | Last day number of mentions | Positive sentiment score (last week) pctile (100% = most positive) | Net Retail flow (\$mn, last week) | Retail flow most bought rank (last week) | Large number of social media mentions (last 1d) | Short-term price momentum | Short-term long strategy |
| AMAT | APPLIED MATERIAL | Technology | 122.8 | 5 | | 98% | 6.9 | 140 | | | |
| BARK | ORIGINAL BARK CO | Communications | 1.4 | 20 | | 95% | | | | | |
| AI | C3.AI INC-A | Technology | 5.3 | 13 | 4 | 88% | 1.5 | 566 | | | |
| FIGS | FIGS INC-CLASS A | Communications | 6.7 | 12 | | 86% | 2.8 | 361 | | | |
| MU | MICRON TECH | Technology | 82.4 | 15 | | 79% | 34.3 | 19 | | | |
| BABA | ALIBABA GRP-ADR | Communications | 441.1 | 31 | 8 | 77% | 109.8 | 4 | | | |
| AMZN | AMAZON.COM INC | Communications | 1732.8 | 5 | | 72% | 39.9 | 15 | | | |
| CRSR | CORSAIR GAMING I | Technology | 2.7 | 11 | 9 | 70% | 4.3 | 255 | | | |
| AMC | AMC ENTERTAINMEN | Consumer, Cyclical | 22.2 | 45 | 10 | 56% | 15.7 | 51 | | Υ | Υ |
| Α | AGILENT TECH INC | Industrial | 53.5 | 94 | | 53% | 3.8 | 276 | | | |
| X | US STEEL CORP | Basic Materials | 7.3 | 7 | | 51% | 2.3 | 417 | | | |
| С | CITIGROUP INC | Financial | 145.3 | 15 | 7 | 49% | 15.5 | 53 | | | |
| ET | ENERGY TRANSFER | Energy | 25.2 | 20 | 10 | 47% | 1.5 | 558 | | | |
| MA | MASTERCARD INC-A | Financial | 348.4 | 7 | | 42% | 13.9 | 66 | | | |
| PSFE | PAYSAFE LTD | Consumer, Non-cyclical | 6 | 5 | 5 | 40% | 2.1 | 447 | | | |
| GM | GENERAL MOTORS C | Consumer, Cyclical | 71.4 | 5 | | 37% | 21.1 | 31 | | | |
| RH | RH | Consumer, Cyclical | 15.1 | 5 | | 28% | 2.2 | 440 | | | |
| SKLZ | SKILLZ INC | Technology | 4.3 | 44 | 31 | 26% | 1.1 | 701 | Y | | Y |
| SPY | SPDR S&P 500 ETF | Funds | 399.7 | 36 | 2 | 21% | 5.1 | 209 | | | |
| FB | FACEBOOK INC-A | Communications | 1073.2 | 14 | | 19% | 35.3 | 18 | | | |
| PM | PHILIP MORRIS IN | Consumer, Non-cyclical | 160.6 | 11 | 6 | 16% | 0.1 | 2911 | | | |
| MSFT | MICROSOFT CORP | Technology | 2281.4 | 4 | 3 | 12% | 5.7 | 181 | | | |
| SOFI | SOFI TECHNOLOGIE | Financial | 11.3 | 7 | | 7% | 13.6 | 67 | | | |
| RIDE | LORDSTOWN MOTO-A | Consumer, Cyclical | 1.1 | 5 | 3 | 5% | 11.2 | 87 | | | |

 $Source: JPMorgan\ Market, Data\ \&\ Positioning\ Intelligence$

6) Key latest developments in the retail space over the last month - Robinhood, Paypal, Coinbase in focus

Finally, across the retail space more generally we note the following developments over the month:

- ➤ **Robinhood** (US retail brokerage; HOOD US) IPO'd on 29th July and its shares rallied >80% over the following week. However, the stock has since somewhat reverted, now +17% post IPO.
- ➤ **Paypal** (PYPL US) also launched a crypto service in the UK, allowing customers to buy, hold and sell bitcoin, bitcoin cash, ethereum and litecoin.
- ➤ **Coinbase** (US retail brokerage; COIN US) released Q2 earnings, reporting a +38% QoQ growth in transactions volumes, with notable strength in ETH and institutional.
- ➤ **Visa** bought **CryptoPunk** '7610, a non-fungible token (NFT), for \$150,000 on 19th August, in order to 'have a firsthand understanding of the infrastructure requirements for a global brand to purchase, store, and leverage an NFT'.
- Monthly traded volumes in **bitcoin futures** were flat MoM but down c. 35% vs May highs. On the other hand, **Opensea** (the largest Ethereum-based NFT marketplace) reported a large increase in daily NFT transaction volumes from \$10.2mn to \$180mn over the last 30 days.

Appendix: Historic track-record of predicted Retail trades and/or Retail sentiment data

Retail predicted trades backtests

Peng Cheng has demonstrated predictive power and persistence in retail flows data, the results of which are summarized below. Peng also notes that a combination of retail sentiment and flow helps achieve a better overall performance - here & here.

Exhibit 8: Retail flow backtest results

| Strategy (backtest since Jan' 2020) | Net Sharpe (annualized) | Return (annualized) | Volatility (annualized) | Worst Drawdown | Skewness |
|--|----------------------------|------------------------|----------------------------|-------------------|----------|
| Daily Long / Short Retail Flow | 1.7x | 15.7% | 9.1% | -6.8% | -0.90 |
| Weekly Long / Short Retail Flow | 0 . 9x | 6.5% | 7.6% | -5.2% | -0.25 |

Source: JPMorgan Quantitative & Derivatives Strategy Research

Retail sentiment backtests (as highlighted above)

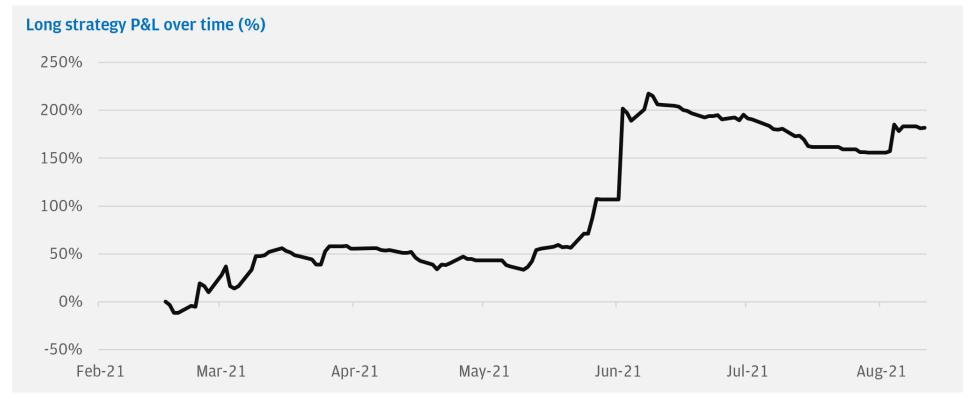
We have developed 2x long-only strategies based on a combination of US retail social media sentiment, flows & price momentum. These strategies have been profitable so far this year, each delivering a Sharpe over 1.8x. Note that the strategies rebalance daily and assume 20bp transaction costs each way. These strategies are available as a data feed, with history.

Exhibit 9: Backtest results since 15th Feb 2021

| Strategy (backtest since 15 Feb '21) | Net Sharpe (annualized) | Total P&L | Max Drawdown | Hit rate | Avg profit per trade | Total # of trades |
|---|----------------------------|-----------|-----------------|-------------|-------------------------|----------------------|
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Note: All results are after transaction costs (20bps per trade) Source: JPMorgan Data Intelligence

Exhibit 10: Average combined P&L for long strategies



Source: JPMorgan Data Intelligence

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The broader JPM Retail investor library includes the following. Please reach out to the respective teams to subscribe or access the data trial.

Content - Research:

- Retail Radar (weekly): commentary on US Retail investor predicted trades Peng Cheng, QDS Research
- Flows and Liquidity (ad hoc): summary of retail flows in the context of broader positioning Nikos Panigirtzoglou, QDS Research
- Coverage of **HOOD US** and **COIN US**: regular coverage from analyst <u>Kenneth Worthingon</u>, <u>Brokers</u>, <u>Asset Managers & Exchanges</u>

Content - Trading (Global Market, Data & Positioning Intelligence):

- **Through the Retail Lens (ad hoc):** summary of US Retail investor predicted trades, stocks discussed on social media and (backtested) stocks most likely to out/(under)perform as a result <u>JPM Data Intelligence</u>.
- Prime Time: retail sector flows in the context of JPM Prime and ETF flows JPM Positioning Intelligence.

Data:

- **1) Social media volume and sentiment data** daily snapshot of stocks discussed on social media (including Reddit / Wallstreetbets), along with number of mentions and sentiment based on NLP analysis. Using this data we have also created two short-term long only strategies which have delivered a Sharpe of c.2x this year. Historical feed for number of mentions, sentiment and strategy also available (last 6 months). JPM Data Intelligence.
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- **3) Retail risk of a squeeze screen** we have combined the data sets above in order to present a daily stock screen of long ideas based on positive weekly social sentiment and net retail inflows. This screen also reflects any stocks identified in our short-term long only strategies above. <u>JPM Data Intelligence</u> and Peng Cheng, ODS Research

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Signal from the Noise: A new market timing tool for the S&P500 based on JPM Fundamental & Positioning signals – May 18 2021

Signal from the Noise: Responding to 8 FAQs – June 10 2021

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