Exhibit A

Robinhood's Collateral Crunch Explanation Puzzles Wall Street

- Veterans say estimating DTCC requests is just part of business
- Yet 'they obviously fell very, very short' of the money needed



Retail Revolution: The Rise of Reddit and Robinhood Traders



By Annie Massa, Yalman Onaran, and Matthew Leising
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A week after Robinhood Markets tried to clear the air by explaining why it slapped controversial limits on trading hot stocks, Wall Street's risk professionals are still perplexed: How was the firm so ill-prepared for an obvious surge in collateral calls?

To the financial industry, anticipating collateral demands from hubs such as the Depository Trust & Clearing Corp. is Brokerage 101. Major firms assign teams to study the DTCC's methodology, estimate its requests and make sure ample cash is available. Everyone grumbles, sure, but they also know what happens when firms fall short: They scramble for a lifeline or shut down. Robinhood gathered billions from backers to keep it going.

"They obviously fell very, very short," said David Weisberger, a market structure consultant who built trading systems at Salomon Brothers and Morgan Stanley. He said he's been puzzling over Robinhood, given what he called the "well known" requirements of clearinghouses. "This was a franchise-threatening event."

The Silicon Valley startup left users fuming by temporarily restricting certain purchases at the height of January's mania over GameStop Corp. and other "meme stocks" that were in the midst of skyrocketing. By the end of this week, as millions of customers were downloading its app to trade the fallen darlings and new ones, risk managers were still stuck on how Robinhood ended up in the predicament.

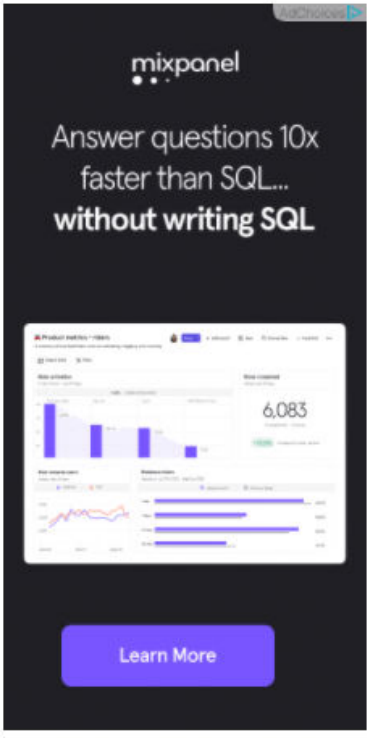
Read more: Robinhood's 600,000-download day underscores app's staying power



Reached for comment, a company spokesperson referred to a Thursday blog post by the president and chief operating officer of Robinhood Securities, Jim Swartwout.

"We have grown rapidly. And we have, at times, encountered challenges as we've scaled to meet this moment," Swartwout wrote, describing how the firm's growth and a surge in trading volume fueled collateral demands. "To say the overnight increases in volume Robinhood experienced last week were extraordinarily high would be a vast understatement. The surge was magnitudes higher than the norm."





Chief Executive Officer Vlad Tenev has linked the trading restrictions to a roughly $3 billion collateral call that arrived early Jan. 28 from part of the DTCC, which Robinhood has said contributed to a 10-fold jump in weekly clearinghouse deposit requirements for equities. While Tenev has credited the DTCC for being reasonable and ultimately accepting $700 million, he has at times portrayed its formulas as opaque, noting they include a "discretionary" component.

"We don't have the full details" of how the DTCC arrived at its initial demand, Tenev told Elon Musk last weekend in an interview broadcast on the social-conversation app Clubhouse. "It would obviously be ideal if there was a little bit more transparency so we could plan better around that."

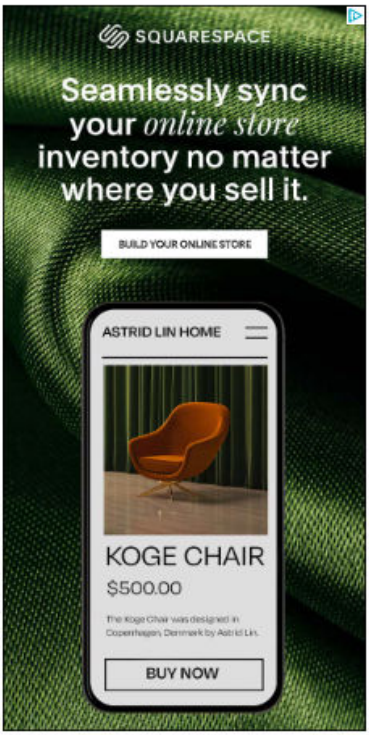


The rejoinder from industry executives: It's pretty much just math.

'Shame on Them'

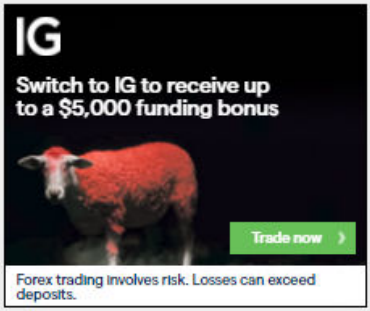
In interviews, more than a half-dozen senior risk executives -- some from Wall Street's largest firms -- reacted with bemusement to any assertions that the magnitude of the DTCC's demands can't be anticipated. They spoke on the condition they not be identified, in some cases because they interact with Robinhood.





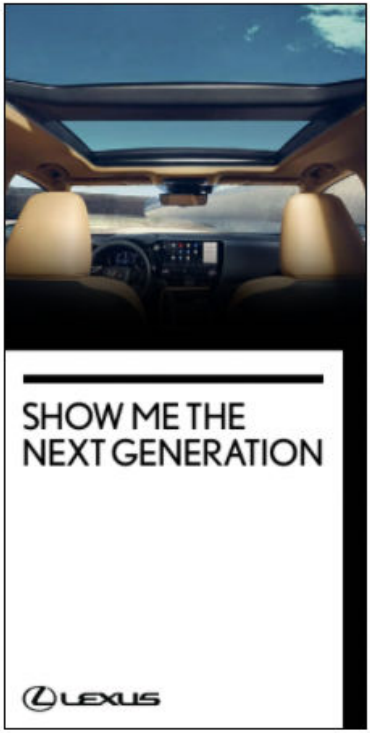
They acknowledged there's always complaining about the difficulty of pinpointing what clearinghouses will seek, and that things can go wrong. Some executives even recounted times when they got pressed for millions of additional cash on short notice. But overall, the group said that large, well-run firms don't get surprised by requests that threaten to empty their pockets.

One brokerage executive said Robinhood should have ensured it had enough capital or stopped processing trades of volatile stocks. Charles Schwab Corp.'s TD Ameritrade, for example, began limiting bets on certain meme stocks the day before Robinhood did. Robinhood's later restrictions were more severe, tapering off into the week that followed.



"Once every decade or so there are improbabilities that occur," said Weisberger, who now runs cryptocurrency venture CoinRoutes. Self-clearing firms such as Robinhood need to know what potential demands they could face. "If they studied it and came up with an answer and it was wrong, well shame on the people who studied it," he said. "If they didn't study it, well then shame on them."





Avoiding Surprises

The DTCC bases much of its deposit demands on elements including a clearing member's concentration in volatile stocks, the volume of trades occurring, imbalances in buying and selling, and the firm's financial condition. The more a brokerage is exposed to erratic shares, the more collateral it has to post. The less capital a brokerage has on hand, the more severe its surcharge may be.

The goal is to protect the broader financial system from trading defaults. To make collateral calls predictable, the DTCC says it provides "reporting and other tools to our clearing members to help them anticipate their margin requirements for a particular portfolio."

The nightmare that clearinghouses are designed to avoid is that a brokerage loses so much money before a trade is completed that the firm can't hold up its end of the transaction. Without a clearinghouse, one firm's failure could cascade through the financial system. Unwinding just one trade means undoing all of the subsequent transactions if that share already was resold.

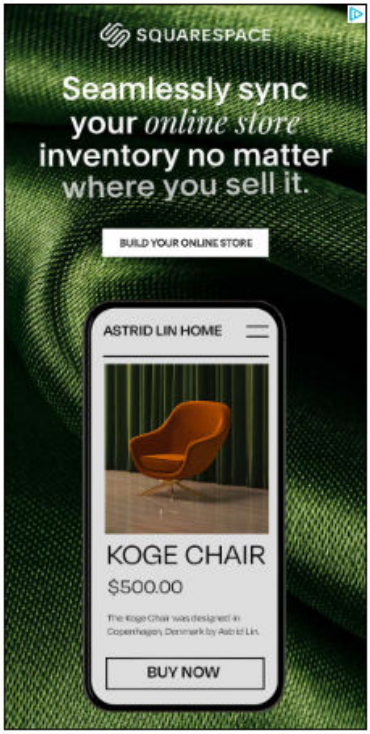
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A broker-dealer's collateral burden rises if it lends money to customers, and especially if they bet heavily on, say, stocks that have recently multiplied in value, as GameStop and others did last month. If prices suddenly crash -- which also happened -- it raises the risk



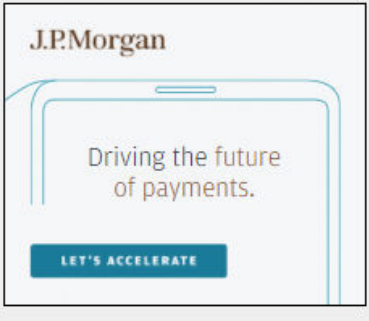


that clients may not be able to repay their margin loans, leaving the brokerage to eat their losses. Some of the recent stock declines may be attributable to Robinhood liquidating clients' positions to head off defaults on loans, according to Wall Street risk managers.

Read more: GameStop wraps up worst week ever, leaving $18 billion hole

"Someone's got to pay," said Eric Budish, a professor of economics at the University of Chicago's Booth School of Business. If you're a brokerage, "you have capital to deal with that existential risk. I was surprised Robinhood didn't have more capital for that scenario."

Margin lending constituted about 20% of Robinhood's $6.7 billion balance sheet in mid-2020. Robinhood tapped credit lines and raised about $3.4 billion from investors at the end of January.



Robinhood, founded in 2013, has been hiring Wall Streeters to help integrate the startup into the more traditional financial system. The firm appointed former Securities and Exchange Commission member Dan Gallagher, Fidelity Investments' Norm Ashkenas and Wells Fargo & Co.'s Kelly Zigaitis to senior legal and compliance roles.





This week, Robinhood offered its own prescription to avoid future problems: The U.S. stock market should abandon its two-day settlement system and switch to a real-time process.



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Moving the U.S. equity market to instantaneous settlement is a huge undertaking that would require years of work. Two components of trading would probably need to be digitized: The securities and the cash to pay for them. Digitally representing a security like a stock or bond isn't difficult and a small-scale effort by Paxos Trust Co. to use blockchain to settle stock trades in near real-time received a green light from the SEC in 2019.

Digitizing U.S. dollars to pay for stocks is years off, if it ever happens. Another hurdle is all of the banks, brokerages, hedge funds and trading firms that buy and sell shares would need to update their systems to make the change. The transition would no-doubt be expensive.

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Australia embarked on a plan to do just that in 2016 when Digital Asset Holdings announced a deal with ASX Inc. to remake the Australian Stock Exchange so settlement times could be cut from days to minutes. The project has been extended repeatedly and is currently two years behind schedule.

Meanwhile, Robinhood is fortunate to have access to venture capital to weather a rough patch, said Joanna Fields, founding principal at market structure consultancy Aplomb Strategies.

"There are firms that have controls, governance frameworks and processes, and that do not have the capability of getting that kind of capital infusion," she said.

– *With assistance by Jennifer Surane*