

# Robinhood Shifts Trading to the Masses

## An overview of the disruptive no-fee stock-trading app

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### Key takeaways

- The retail trading market has come under pressure in recent years from the no-fee trading app Robinhood, a company that is taking significant market share during times of increased pandemic-driven trading volatility.
- Robinhood was born out of a desire to democratize trading and has grown to become one of the most highly valued discount brokerage fintech companies, commanding a valuation of over \$11 billion and more user accounts than most traditional competitors.
- Robinhood's early growth benefited from nontraditional marketing campaigns targeting a younger demographic that helped keep customer acquisition costs to a mere fraction of what incumbents pay. While the company pioneered no-fee trades, it relies on a diversified revenue stream including interest on cash held, transactional revenue from trades placed, and payment-related fees for its associated debit card.
- While the platform offers limited trading products relative to incumbents, we believe recent growth has helped validate the business model and expect management to begin a more aggressive expansion into new offerings related to brokerage and traditional consumer finance.
- Following fintech IPOs in 2020, including those of Lemonade and nCino, we expect Robinhood could go public within the next 12-18 months and would not be surprised to see a ramp up in M&A and partnerships in the near term.

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## Introduction

Following the financial crisis, a range of new tech-driven financial services has emerged and gained favor, particularly among consumers using mobile channels to manage personal finances. Robinhood, a no-fee stock trading app, entered the retail stock trading space in 2013 and has since disrupted the market significantly. Incumbents eliminated trading fees as well to remain competitive, and the market consolidated considerably, exemplified by Morgan Stanley's acquisition of E-Trade and Charles Schwab's acquisition of TD Ameritrade. In today's volatile market, new traders are seeking ways to profit from the swings in stock prices spurred by COVID-19, which has helped to validate the Robinhood business model. The company experienced a dramatic surge in new account growth and trading activity during the pandemic; it is now one of the largest retail brokerages in terms of accounts and holds a private market valuation of over \$11 billion. Robinhood remains focused on the younger demographic and has a relatively narrow product offering compared to incumbents. However, after the company closed \$600.0 million and \$200.0 million financings in July and August, respectively, and given an expanded management team of technology and finance veterans, we believe the stage is set for more aggressive expansion over the next year, both organically and via M&A. We expect this will include not only a wider array of trading products but more traditional financial management tools as well.

## The evolution of discount brokerages

The discount brokerage industry officially started on May 1, 1975, when the SEC abolished fixed-rate commissions, allowing variable (or negotiated) brokerage commissions for the first time in Wall Street history. That same year, Charles Schwab founded the eponymous discount brokerage firm in Sacramento, CA. Over the years, Charles Schwab was at the forefront of implementing what were, at the time, innovative technologies. These included its BETA mainframe system that automated its transaction and recordkeeping, a DOS-based solution for its Equalizer portfolio management and trading tool, and an automated telephone technology with its TeleBroker service.

In the early 1990s, E-Trade was a pioneer in internet trading as more Americans became connected to the web. The early online discount brokerage model was typically self-directed, highly accessible, and offered lower commission fees relative to traditional discount brokers. The introduction of cheaper personal computers and faster internet modems drove growth in online trading, which led to numerous IPOs of discount brokerages in the 1990s, including those of E-Trade and Ameritrade. Other discount brokerages, such as Quick & Reilly, went through large-scale acquisitions.

With the invention and mass adoption of the iPhone and the growth of the Apple App Store, companies including E-Trade and Fidelity introduced mobile trading apps. These early versions delivered real-time quotes, news, and stock charts and allowed customers to execute buy-sell trades. However, the apps were clunky and resembled miniaturized versions of the desktop trading experience. Additionally, incumbent providers remained primarily focused on high-net-worth individuals, which they viewed as more profitable trading customers.

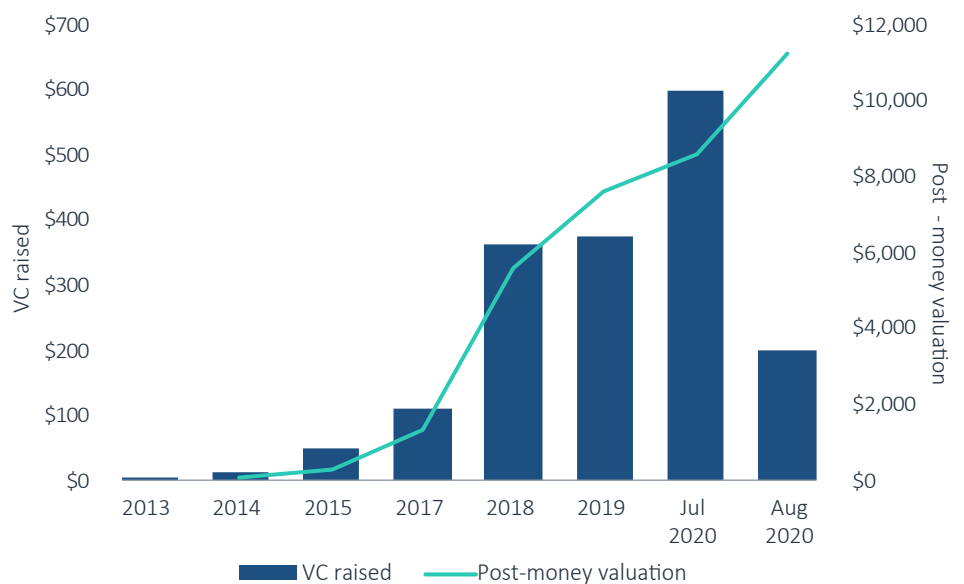
Baiju Bhatt and Vlad Tenev founded Robinhood—originally named Spacetime Industries—in 2013 after the two attended Stanford. In the spirit of the post-financial crisis Occupy Wall Street Movement, their idea was to create a financial services platform that democratized financial services for everyone. The founders' first launch was a financial advice crowdsourcing platform that scored users on how accurately they predicted the price of stocks. However, Bhatt and Tenev realized financial infrastructure technology was advanced enough to provide stock trades at no cost. The result was a differentiated stock trading app that relied on the burgeoning mobile ecosystem to attract a new generation of digital-native users. Compared to incumbents E-trade and TD Ameritrade, Robinhood was sleek, easy to set up, and—most importantly—a free way to trade stocks.

### Robinhood funding and leadership

#### *Fundraising from a strong mix of investors*

Robinhood has raised over \$1.7 billion and surpassed an \$11 billion valuation in less than six years since its official launch in the app store in December 2014. Robinhood was initially seeded with \$3.0 million in a deal led by GV, Index Ventures, and Andreessen Horowitz. The company went on to raise additional capital from notable institutional investors including Sequoia, Ribbit Capital, NEA, DST, and Kleiner Perkins. The pool of investors that participated in the company's recent Series F consisted primarily of follow-ons, including Sequoia as the lead investor. A month after the company's Series F, Robinhood raised an additional \$200.0 million from hedge fund D1 Capital Partners.

#### Robinhood VC raised and post-money valuation (\$M)



Source: PitchBook  
\*As of August 19, 2020

In addition to both Bhatt and Tenev, Robinhood's board includes three investors. The company is still searching for an independent director to fill the recent vacancy.

## Robinhood board members

BOARD MEMBER	PRIMARY ROLE	EXPERIENCE
Blake Byers	GP at GV	GV (2010-present). Current board member of 10 other companies, including LendUp and Lime.
Jan Hammer	GP at Index Ventures	Index Ventures (2010-present). Current board member of 13 other companies, including Adyen and BitPay.
Scott Sandell	Managing GP at NEA	NEA (1996-present). Current board member of 20 other companies, including Tableau and Divvy.

Source: Robinhood

*Robust management team with finance and tech experience*

In the past 18 months, Robinhood has significantly expanded its management team. Dan Gallagher, who served as SEC Commissioner from 2011-2015, recently joined as an independent board director but vacated the role in May 2020 to become Chief Legal Officer. Other recent key hires for the company are highlighted in the accompanying table.

## Recent Robinhood hires

BOARD MEMBER	PRIMARY ROLE	EXPERIENCE
Christina Smedley	Chief Marketing Officer	Previously VP Brand & Marketing at Facebook and VP Global Brand & Communications at PayPal
Gretchen Howard	Vice President of Operations, then promoted to COO	Previously spent 12 years at Alphabet with roles as a Partner at CapitalG and Managing Director in Google's Global Business Organization
Jason Warnick	CFO	Previously spent almost 20 years at Amazon with roles as VP of Finance and Chief of Staff to the CFO
Jim Swartwout	Head of Clearing Operations	Previously COO of Scottrade, CEO and President at tradeMONSTER (Options House), COO E-Trade
John Castelly	Chief Compliance Officer	Previously Chief Compliance Officer of Personal Capital, senior legal roles at TD Ameritrade and the SEC
Rich Jackson	VP of Risk and Compliance	Previously Senior Finance Director at Amazon for over a decade
Smeeta Ramarathnam	Promoted to Deputy General Counsel, VP-Legal and Regulatory	Previously over a decade in various roles at the SEC

Source: Robinhood

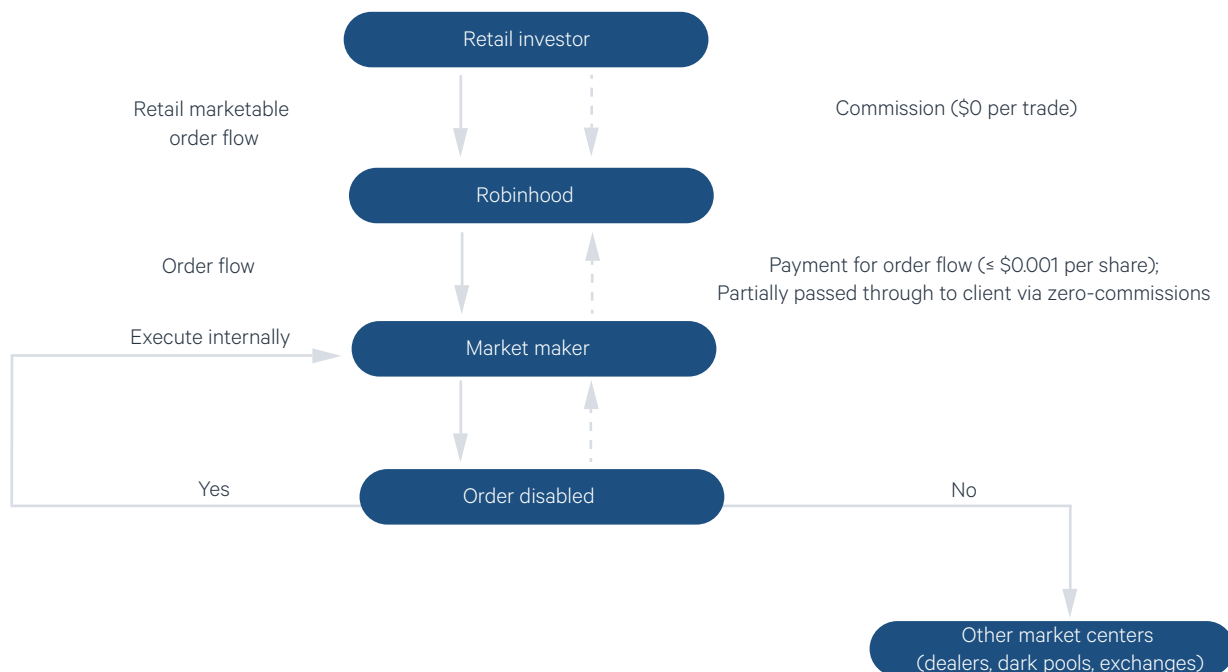
### Company overview

#### *Diversified revenue sources*

Robinhood generates revenue from several sources, but its primary income has historically derived from uninvested customer cash held in interest-bearing accounts. The company was holding approximately \$2.6 billion of uninvested customer cash at the end of 2019.<sup>1</sup> While this represents a relatively stable source of revenue, it can be negatively affected by persistently low interest rates, such as those of the current market.

While the founders previously stated that cash balances served as the core source of revenue for the company, market maker activities are likely providing a substantial portion in the current high-trading-volume environment. Transaction-based revenue sources for the company include serving as a market maker for stocks, ETFs, and options and a trading venue for cryptocurrency rebates. Robinhood sends customer trade orders to counterparties who execute the trade only if they can profit from the spread. As a result, Robinhood earns about 2.6 bps per dollar traded.<sup>2</sup> This practice is known as payment for order flow (PFOF) and is common in the industry. However, it is controversial because conflicts of interest can arise when a broker sends orders to market makers that offer the highest rebate (in other words, payment), which can result in customers not receiving the best price. To minimize this risk, Robinhood management claims to have taken steps to ensure its routing systems are giving its customers best trade execution as determined by the published national best bid and offer (NBBO). In Q1 2020, Robinhood stated that 95.1% of its customers market orders (S&P 500 stocks) were executed at NBBO or better.

#### How market makers such as Robinhood’s two most used Citadel Securities (72.2% of orders) or Wolverine Securities (10.3%) execute orders



1: Robinhood's 2019 SEC X-17A-5 filing  
 2: A Letter From Robinhood Co-Founder & Co-CEO Vlad Tenev, Robinhood, October 12, 2018

While most users of Robinhood hold free accounts, the company offers a premium service called Robinhood Gold that costs \$5 a month. Premium features include access to Morningstar investment research and Level II Market Data (such as bid/offer spreads), larger instant deposit limits, and margin trading. Margin traders on the app are allotted the first \$1,000 interest-free and pay an APR of 5.0% for any higher amounts.

One of Robinhood's newest products, Cash Management, allows its customers to sweep uninvested cash to a partner bank, Sutton Bank. The accounts are linked to a Mastercard debit card that can be used for regular purchases, generating interchange revenue that is shared with Robinhood. While this may cannibalize revenue from cash balances, it provides a unique opportunity for increasing user engagement, which may create new revenue opportunities in the future. Other sources of revenue include stock loan income (stock lent out to counterparties, typically short sellers) and various account fees.

#### *Customer-centric technology*

Robinhood stands out in the market with its easy-to-use platform and superior UX. The company has built technology to automate sign-up, trading, and other processes. This reduces customer servicing costs and helps eliminate trading fees. Robinhood has developed various technologies in-house, including its distributed processing system called Faust, which allows the company to process vast amounts of data in real time. Faust can be used for detecting fraud, monitoring order execution quality, and aggregating and tagging news. Robinhood also established its own clearing system and was able to migrate custody of its users' accounts from a third party (Apex Clearing) to Robinhood Securities. The new clearing system enables Robinhood to reduce or remove certain fees such as bank reversal fees, while gathering enhanced trade and account information. This data is funneled into an internal dashboard called Major Oak that improves customer support levels.

#### *Product lineup still has room for growth*

Robinhood began with stock trading capabilities for a small group of US-listed companies. Since then, the company has expanded the quantity and type of securities that can be traded as well as its consumer finance product offerings. While incumbents such as Charles Schwab still offer a much broader range of traditional financial products, Robinhood continues to focus on innovative new products such as cryptocurrency trading and fractional shares trading (currently in beta). We see significant greenfield opportunities for the company to provide investment products (such as mutual funds and ETFs) and managed accounts. Products in these categories could be more desirable to Robinhood's customers as they become more sophisticated and their investment portfolios grow.

In addition to product diversification, Robinhood seeks to expand its customer base. Although it initially targeted young first-time investors, management cites an increase in the number of experienced investors creating accounts. Recently, management reported that just over 25% of referrals from family members come from customers sharing referral links with their parents (while only 3% are parents referring their children), indicating a potential increase in older users. We believe that as the company's demographics skew older, this will provide opportunities to develop more age-appropriate products such as retirement accounts.

**Robinhood's current product offerings**

PRODUCT	DESCRIPTION
Stocks and funds	Investment in over 5,000 stocks consisting mostly of the US-listed stocks and ETFs as well as 250 ADRs of internationally listed companies
Options	Trade options contracts for US-listed stocks and ETFs; ability to create option trading strategies
Gold	Access to premium features including margin, higher instant deposit, and investment research
Cash management	High-yielding and FDIC-insured spend account linked to a debit card
Crypto	Cryptocurrency including Bitcoin, Ethereum, and five others

Source: Robinhood

*FOMO-approach to marketing*

Robinhood has relied on nontraditional advertising methods to build awareness. During its pre-product launch in 2014, the company obtained almost 1 million signups via organic word-of-mouth and referral marketing. Tech blog writers drove organic inbound leads to the company's website, which helped propel the signup page to the #1 spot on Hacker News, a tech news website created by Y Combinator. Tactics have also included a referral program that gave early waitlisters access to a private beta version and provided incentives to move up the waitlist based on referrals. The company used similar referral marketing campaigns for other product launches including Robinhood Instant, Crypto trading, Cash Management, and Fractional Shares.

While these strategies are more common today, we believe they have proven effective in building the brand while keeping customer acquisition costs low. Robinhood also has a paid acquisition referral program, in which it grants a single company stock, typically in the \$5-\$10 range (Fitbit, for example), to both the referrer and referee. This equates to a customer acquisition cost of about \$10-\$20, which is considerably lower than our estimates of \$200-\$500 CAC for incumbents such as Charles Schwab or E-Trade. As Robinhood scales, introduces more products, and seeks to broaden its customer base, we expect CAC to increase; we also note that in 2019 the company began to purchase more traditional TV advertising.

## Top 10 investment advertisers by TV ad spend, 2019

ADVERTISER	SPEND (\$M)
Chase Bank	\$45.7
Fidelity Investments	\$42.1
E Trade Financial	\$37.2
Fisher Investments	\$34.1
Charles Schwab	\$29.7
TD Ameritrade Brokerage	\$29.5
TD Ameritrade	\$15.1
Edward Jones	\$14.0
T Rowe Price	\$8.3
Robinhood	\$8.0

Source: Kantar Media, Robinhood Takes Aim at Advertising, Ranks Among the Top Investment Companies in 2019, February 2020

*Risks stem from regulation, pace of development*

Robinhood operates in a highly regulated industry with extensive consumer protections, and its meteoric growth has not come without missteps. Examples include:

- In late 2018, Robinhood announced an SIPC-insured savings product that would pay customers 3% interest. Shortly after the announcement, the SIPC stated that brokerage funds were insured only if they were to be used for investing, not for saving. After the initial embarrassment, Robinhood retracted the product and later rolled out a similar product called Cash Management backed by an FDIC-insured bank partner.
- Robinhood has faced scaling issues as trade volumes increased. In March 2020, during high trading sessions, Robinhood experienced widespread outages that lasted for hours over the course of several weeks. While these scaling issues may be behind the platform for now, we expect the company to continually invest in internal tech R&D.
- In Q4 2019, the company was fined by FINRA for not guaranteeing best execution prices for its customers.
- In the same quarter, a glitch was discovered by Gold users that allowed the use of margin on trades without needing to put down sufficient cash to back the transactions. The loophole enabled users to sell covered calls on margin and then add the value of those calls to the users' cash accounts. Robinhood was not aware of the glitch until it was publicly reported on online investment forums.



These types of glitches and the lack of user protections and guardrails can be very harmful for speculative traders, especially those who do not fully understand the risks of complicated trading strategies or instruments, such as margin and options. In June 2020, a college student died by suicide after seeing a -\$730,000 balance in his Robinhood account, even though the balance was from incomplete option trades. These incidents have led the company to increase eligibility requirements for Level 3 options trading, add more educational resources, and update its UI to display more clearly buying power and options assignments.

## Market landscape

### *Increasingly consolidated competitive landscape*

There are several leading retail stock trading apps that offer different types of products and services at various price points. While Robinhood's no-fee trading was initially a differentiator, especially for younger consumers, each of the leading incumbents (Charles Schwab, TD Ameritrade, and E-Trade) eliminated trading fees starting in Q4 2019. This has driven significant consolidation in the industry, particularly for those firms such as TD Ameritrade and E-Trade, which relied heavily on trading fees. Both of those brokerages were subsequently acquired by Charles Schwab and Morgan Stanley, respectively. Additionally, the market segmentation has been blurred as full-service bulge bracket brokers such as Merrill Lynch and JP Morgan target the retail market with consumer-focused apps including Merrill Edge and You Invest, respectively.

Although we view Robinhood's onboarding and ease of use as superior to the offerings of competitors, the company's tools still lack features and services that we deem critical for a brokerage. As shown, Robinhood's average assets per account of \$4,800 is well below that of competitors, reflecting its younger demographic skew. As user-assets grow, the platform will be pressured to offer more sophisticated trading tools and services. For example, while the company offers access to Morningstar research reports only to its Gold members, E-Trade offers professional research from Credit Suisse, Thompson Reuters, TipRanks, and others to all of its members for free. E-Trade also provides a range of analytical tools such as stock screeners and backtesters, while Robinhood does not have any trading tools currently available.

### Comparison of select company financial metrics for Q2 2020

COMPANIES	TOTAL ACCOUNTS (M)*	TOTAL CUSTOMER ASSETS (\$B)*	AVERAGE ASSETS/ACCOUNT (\$B)*	INTEREST EARNING ASSETS (\$B)	NET INTEREST MARGIN	TOTAL TRADES (M)	ORDER ROUTING REVENUE (\$M)
Robinhood	14.5	\$69.6	\$4,800.0	\$5.0	1.00%	271.5	\$180.0
Charles Schwab	14.1	\$4,110.1	\$291,351.8	\$362.9	1.63%	102.0	\$72.0
TD Ameritrade	13.3	\$1,461.0	\$109,915.7	\$45.4	1.39%	214.0	\$340.0
E-Trade	7.9	\$781.8	\$98,389.1	\$60.6	2.56%	63.6	\$120.0

Source: SEC financial filings, PitchBook estimates

\*Total as of June 30, 2020

## Comparison of select company valuation metrics

COMPANIES	VALUATION	VALUATION/ ACCOUNT	VALUATION/ ONE DOLLAR OF ASSET
Robinhood	\$11.2B*	\$772.4	\$0.161
Charles Schwab	\$21.2B**	\$1,502.8	\$0.005
TD Ameritrade	\$26.0B***	\$1,956.1	\$0.018
E-Trade	\$13.0B***	\$1,636.0	\$0.017

\*Based on Series G pre-money valuation  
 \*\*PitchBook calculated EV as of June 30, 2020  
 \*\*\*Based on acquisition price

## VC-backed brokerages by capital raised

COMPANIES	HQ LOCATION	YEAR FOUNDED	TOTAL RAISED (\$M)	LATEST DEAL DATE	LATEST DEAL TYPE	LATEST DEAL AMOUNT (\$M)
SoFi	San Francisco, CA	2011	\$3,299.0	May 13, 2020	Late-stage VC	\$879.0
Trade Republic	Berlin, Germany	2015	\$86.7	April 17, 2020	Series B	\$73.0
M1 Finance	Chicago, IL	2015	\$54.5	June 9, 2020	Series B	\$33.0
Stockpile	Palo Alto, CA	2010	\$48.5	September 28, 2017	Series B	\$30.0
Score Priority	New York, NY	2007	\$40.0	November 4, 2016	Series A	\$40.0
Freetrade	London, UK	2015	\$28.6	May 14, 2020	Equity crowdfunding	\$8.8
Public	New York, NY	2015	\$21.0	March 2, 2020	Series B	\$10.0

Source: PitchBook

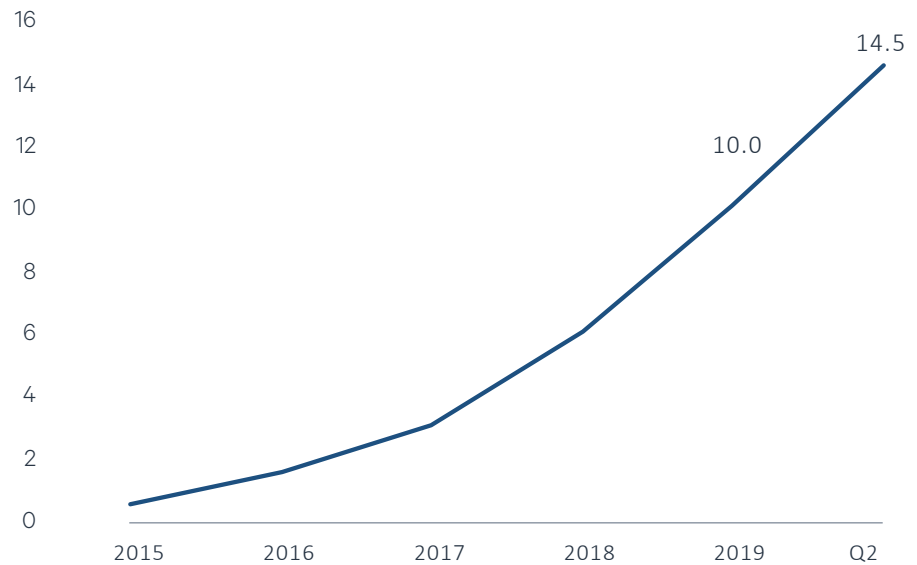
## Growth and expansion outlook

*M&A and partnerships to complement strong organic growth*

As Robinhood's growth soars and its market penetration expands and eventually plateaus, we expect management will more aggressively pursue inorganic growth strategies. Robinhood has opened over 13 million retail brokerage accounts since 2015, which is more than each of the big four stock brokerages (Charles Schwab, Fidelity, TD Ameritrade, E-Trade) opened during that same timeframe.

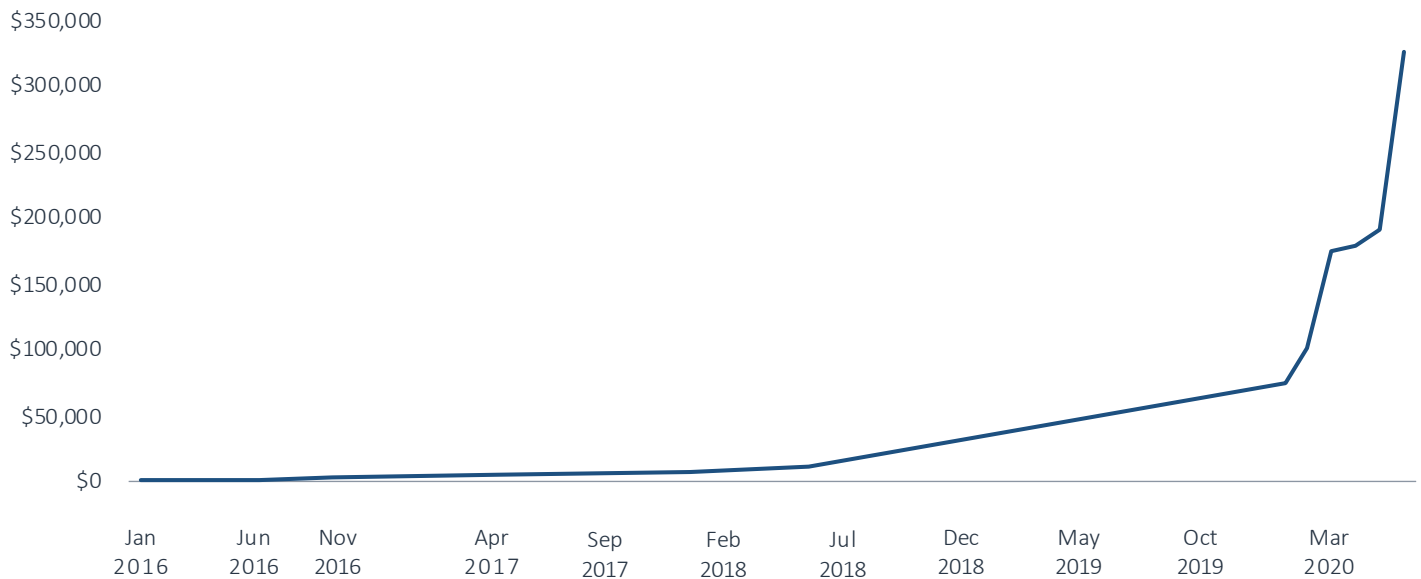
Additionally, high market volatility from the COVID-19 pandemic has driven a 3x increase in Robinhood's trading volume compared to the same period the prior year. The spike in trading followed the addition of 3 million new accounts in Q1 2020 (a 30% increase from end of 2019), and March saw a 10x increase in net deposits compared to the monthly average for the previous quarter.

Robinhood's open accounts since 2015



Source: Robinhood, PitchBook estimates

Robinhood's monthly transaction volume (\$M)



Source: Robinhood, PitchBook estimates

Unlike other large-scale fintech unicorns such as Stripe, SoFi, and Coinbase, Robinhood has historically not been acquisitive or made many early-stage strategic investments. To date, the company has closed only one seed investment into Token Store, a decentralized cryptocurrency exchange that shut down in June 2020; and MarketSnacks, a daily financial newsletter and podcast that aims to provide more accessible market information for millennials, who comprise the majority of the company's customers. However, with an experienced senior management team in place and a fresh

\$800.0 million of VC in the bank, we believe the stage is set for Robinhood to pursue more investments, partnerships, and acquisitions to help drive growth. At time of writing, the company posted an opening for a Senior Corporate Development Manager to accelerate its “product roadmap through mergers and acquisitions” and to “lead strategic partnership and investment opportunities.” We believe areas of future expansion could include financial infrastructure and robo-advisor technologies. Robinhood currently relies partly on Galileo Financial Technologies to power its backend processes related to the Cash Management program. In Q2 2020, direct Robinhood competitor SoFi announced its intent to acquire Galileo. This could prompt Robinhood to either develop new infrastructure in-house or obtain it via a partnership or acquisition. As for robo-advisor technologies, Robinhood could expand with managed accounts to automate and simplify the trading experience for its customers, which could hasten customer onboarding.

*New products, geographic expansion, and exit potential*

While Robinhood does not offer the same product breadth as its core competitors, we believe the company is pursuing a deliberate strategy of developing innovative investment tools as opposed to offering “me-too” versions of incumbents. For example, Robinhood is currently beta-testing fractional shares investing, in which users can buy small pieces of a company stock or ETF, which can be as small as \$1 or 1/1000000th of a share. This allows retail investors to increase their market participation, risk management, and portfolio diversification with smaller amounts of capital. It also enables users to gain exposure to expensive stocks, such as Berkshire Hathaway Inc. (BRK-A), or ETFs on a smaller scale. Robinhood is developing its versions of dividend reinvestment plans (DRIPs) and automated investments.

While Robinhood has sought to expand outside of the US, these plans may be on hold for the time being. The company had announced its intention to launch in the UK in late 2019 but ultimately abandoned this plan. We believe the decision likely stemmed from the fact that PFOF is banned in the UK and effectively banned under MiFID II in the European Union, which would require the company to develop alternative revenue sources. We believe Robinhood may prioritize expansion into markets where PFOF is not banned, such as Hong Kong or other regions in Asia and South America.

Having recently raised \$800.0 million, as mentioned, we believe Robinhood likely has ample cash to sustain the next year of growth. Additionally, precedent private market deals for high-growth fintech companies suggest the company could continue to raise private rounds for some time, assuming business conditions remain favorable. However, 2020 so far has seen numerous fintech unicorns enter the public markets, with a few more that could potentially list. Robinhood has been one of the more highly anticipated listings. Even though the company seems to have no issues raising capital in the private markets, we believe it could seek an IPO within the 12-18 months to capitalize on its 2020 momentum.