

PitchBook 2019 Venture Capital Outlook

Forecasting the primary trends that will shape VC in years to come

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2019 predictions

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2018 predictions scorecard

VC valuations will continue to bifurcate.	SPLIT	Angel & seed valuations increased as older and more mature companies entered the stage.
Alternative exits will become less alternative.	PASS	VC secondaries posted a record year, and Spotify's direct listing has spurred interest from some 2019 IPO candidates.
The median fund size will continue to grow.	PASS	2018's median fund size grew more than 50% from the previous year.
Venture activity will increase in entrepreneurial hubs outside of California.	SPLIT	California's proportion of US VC deal count saw a slight decline in 2018 as emerging venture hubs gained traction, but California startups still retain the lions' share of capital invested.
Unicorns will hit the exits, with haircuts coming to some.	SPLIT	A record of 33 unicorns exited in 2018, but not with valuation cuts.
Net cash flows to LPs will stay positive as exit values get a boost.	PASS	The most updated net cash flow data is very robust and reversed the downward trend.
Initial coin offerings (ICOs) will become more institutionalized.	FAIL	Regulators have cracked down on ICOs, and there wasn't a rush of institutional money into the slowing volume of ICOs in the latter half of the year.
Fintech consolidation will accelerate.	SPLIT	Acquisition count in the VC-backed fintech space was slightly down in 2018, but there were still a few key deals in 2018 including Paypal's acquisition of iZettle.

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Prediction: IPOs as a proportion of total VC exit value will hit another decade high.

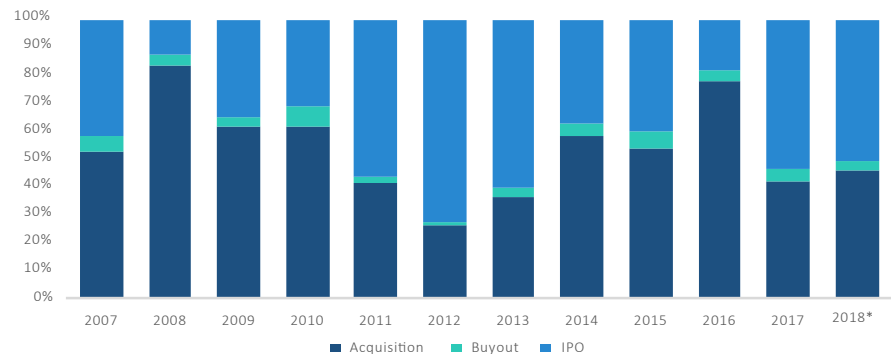
Rationale: The number of companies valued at over \$1 billion (or even \$10 billion) continues to swell, as does their age, driving a need for liquidity. Recent public announcements of IPO plans from many notable VC-backed companies indicates that IPOs will make up a greater percentage of 2019 exits. We expect the outsized valuations of companies that have filed or are expected to go public in 2019 will be enough to drive the proportion to a new decade high, regardless of activity of other exit types.

Caveat: Poor public equity performance or extended volatility in 2019 would likely cause a significant slowdown in IPO activity as companies could choose to postpone listing in a less-than-ideal market. An increasingly robust secondary market for direct stakes in VC-backed companies could relieve some of the liquidity pressure faced by aging startups. Furthermore, a pick-up in acquisitions in the days before a scheduled IPO (e.g. Qualtrics and AppDynamics) could siphon some exit value away from IPOs.

Uber, Lyft, Airbnb, Palantir, Pinterest, Slack, Postmates, CrowdStrike and Zoom are among the multitude of unicorns that have either publicly announced or are rumored to be considering 2019 IPO plans. 2018 saw a strong showing of VC-backed IPOs, pushing the count above 80 for the first time since 2014. It also represented the highest absolute value exited since the surge in 2012, when Facebook's listing accounted for 64.8% of the total exit value in the year. Looking forward to 2019, we see the potential for a similar phenomenon, with the possibility for several outsized exits that would drive this metric to new highs. For context, public markets have seen only six VC-backed exits over \$10 billion since 2007; five of the previously mentioned companies primed to list in 2019 have private valuations exceeding \$10 billion in the private markets.

IPO proportion of total exit value remains elevated

US VC exits (\$) by type



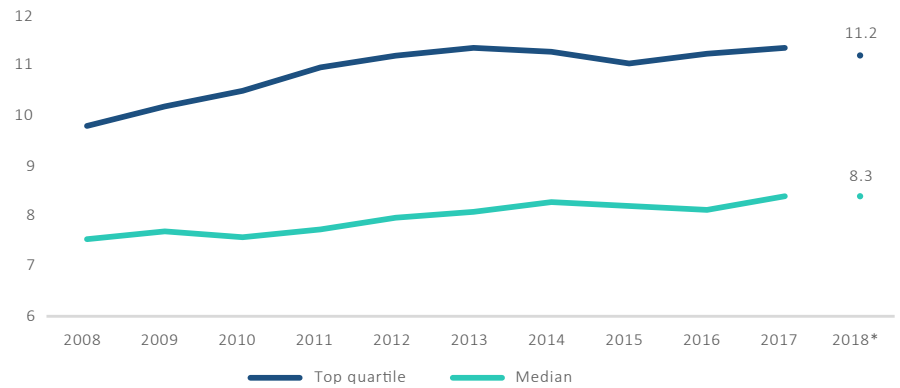
Source: PitchBook
*As of November 30, 2018

As VC-backed companies raise larger sums in the private market, an IPO becomes an increasingly feasible and necessary exit method, especially given the profile of many recent listings. For instance, billion-dollar exits by count have made up 12.8% of IPOs since 2007, compared to only 0.8% of acquisitions. This is obviously affected by the large discrepancy in the denominators for those exit types, given that there are more than 10 times more total acquisitions than IPOs, but it bears mentioning that there have been more \$1 billion+ exits via IPO than acquisition over the past 10 years. As unicorns continue to age and begin to seek liquidity for employees and early investors, exits via public offerings will become increasingly important since there are few acquirers capable of executing a deal once these potential targets reach a multi-billion-dollar valuation.

While there are other liquidity options outside of the three main exit routes, we believe the immense size of the companies at the top end of the market will necessitate more liquidity than is currently available through secondary markets or other avenues. Easy access to private capital has contributed to increasing pressure for many of these highly-valued startups to move on from VC backing. We believe that the extension of holding times running into realistic limits based on fund lifetimes will drive more outsized listings in 2019.

Elevated age of companies will compel a search for liquidity

Median US late-stage VC company age



Source: PitchBook
*As of November 30, 2018

On the other hand, an extended and precipitous decline in the public stock markets would hinder this prediction, as this would result in decidedly fewer companies choosing to complete an IPO. That said, some of the largest and most well-known companies planning to list may still go forward with their plans regardless of market conditions, especially if the market is volatile rather than in a pure downtrend. We expect there will be sufficient demand for stakes in highly anticipated offerings from companies such as Uber, Airbnb and Lyft, which will facilitate healthy IPOs almost regardless of market conditions.

The other potential hurdle to the predicted outcome would be a substantial increase in activity on the M&A front, especially in the \$1 billion+ bracket. The boon of increases in corporate cash balances and access to inexpensive debt has tended to be directed to buying back stock and other internal purposes rather than a rash of new acquisitions in the last two years, which leads us to believe that this won't change drastically in 2019, barring a change in regulatory or market conditions. Even with a modest increase in acquisition activity from a value perspective, we still expect the largest exits to come from the IPO side and take a greater proportion of total exit value.

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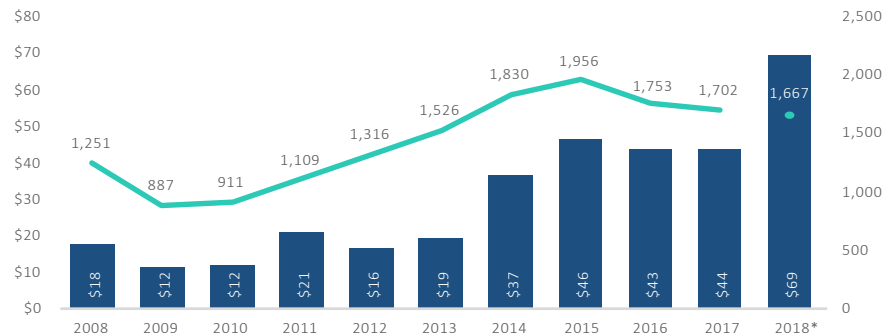
Prediction: New participants in VC will continue to proliferate.

Rationale: Strong returns for VC investors in recent years, and the precipitous rise of valuations over the last decade, have encouraged a host of new entrants into the ecosystem. As these non-traditional VC investors have gained experience, they have sought to avoid management fees of traditional funds and find creative ways to back attractive businesses. This has driven many new innovations in private markets over the past few years, and we expect that to continue, especially in relation to direct investments by non-traditional (or “tourist”) investors.

Caveat: A significant downturn in economic conditions and growth estimates could cause this outlook to fall short of expectations. While capital committed to traditional VC funds is tied up longer than most other strategies, an uncertain or negative economic outlook can do a lot to dissuade new entrants to the market in the near term.

The VC-investing landscape has undergone a historic shift over the past decade, with increasing interest in high-growth opportunities driving more diversity in the investor base and the formation of larger traditional VC funds. This phenomenon has exploded the amount of capital available to companies seeking venture investments. We saw this come to the forefront during 2018, with the value of deals with non-traditional investor participation far outpacing any other year this decade, reaching \$69.4 billion across 1,667 deals. Much of this has been focused in the late stage as well as what historically was thought of as the growth stage. Larger and more mature businesses raising further venture funding, rather than pursuing an exit, has opened a new profile of investment opportunities that fit better with asset managers outside of VC.

Non-traditional investors increase participation in outsized deals US VC deal activity with tourist investor participation



Source: PitchBook
*As of November 30, 2018

The number of unique non-traditional investors completing a direct VC deal also reached a decade high in 2018, signaling continued and growing outside interest in the space. Large pensions, endowments & foundations, sovereign wealth funds and family offices are among some of the major groups we're seeing increase activity in direct VC deals. Building out the deal sourcing and due diligence functions can represent serious expenditures for some of these investor types, but the ability to have more control over allocation and investment decisions at a more granular level has been more top of mind for non-traditional VC investors. We expect this shift toward choice to prevail in the VC ecosystem as asset managers look to decrease fees paid and as the space becomes more open and democratized, reducing the initial costs to building direct investment capabilities.

High expected returns and strong realized returns over the past few years, in relation to other asset classes, has been a key catalyst in the beginning of this trend. The effect of interest rates rising after the extended period near or at zero will necessitate action from asset allocators, potentially moving away from alternatives. Rebalancing alternatives allocations based on poor performance in public equities could also dampen non-traditional direct investment activity since that capital isn't spoken for in the same manner that fund commitments are.

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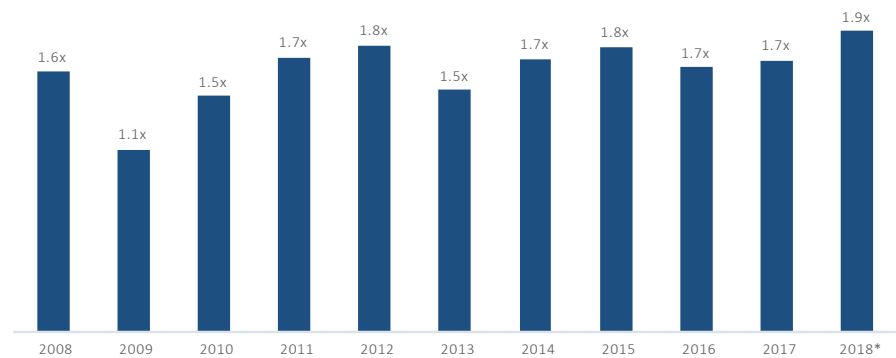
Prediction: Median early-stage valuation step-ups will hit 2.0x in 2019.

Rationale: An increase in the age of firms at first fundraising and increased investor competition are putting upward pressure on valuations, especially at the early stage when firms begin to accelerate growth.

Caveat: Despite the trend toward growing valuation step-ups at the early stage, macroeconomic headwinds or pessimistic change in expectations will lead to risk aversion and more conservative valuations. Additionally, a continued shift toward larger funds and late-stage deals may result in some traditionally early-stage investors turning their focus to later stages, thereby easing upward pressure on early-stage valuations. Conversely, an increase in the velocity of new investors at the seed and pre-seed stages could raise valuations, making it more difficult to achieve large early-stage valuation step-ups.

Step-ups march toward 2.0x

Median US early-stage VC valuation step-ups



Source: PitchBook
*As of November 30, 2018

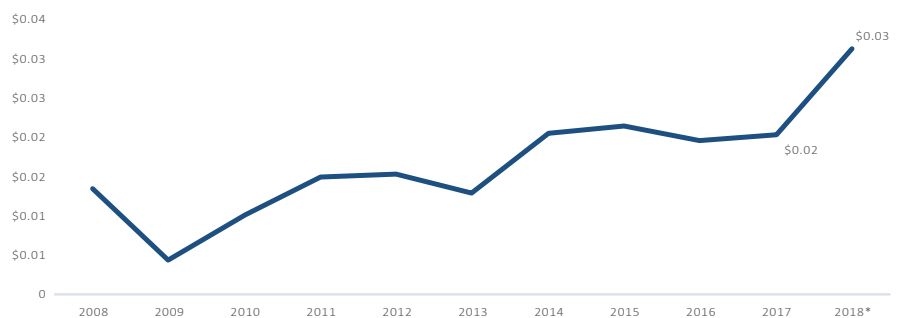
Median early-stage valuations have increased steadily over the past decade. On top of this, median early-stage valuation step-ups have increased annually over the past two years, climbing to 1.9x in 2018. We believe the median will continue to rise in 2019 for several reasons, including that median pre-money valuations are rising faster at the early stage (27.5% YoY) than at the angel & seed stage (12.0% YoY). We have two potential theories for why this may be occurring. First, firms may be becoming more effective at putting seed-stage capital to work, accelerating growth after raising a seed round. Second, competition between VCs to invest in top deals at the early stages may be heating up faster than at the angel & seed stage.

Another important factor is that the median age of the firm at fundraise has increased more quickly over the past three years for angel & seed deals than for early-stage deals. This suggests that, at the angel & seed stage, companies are taking longer to demonstrate sufficient value to warrant investment and that firms are better able to bootstrap themselves for longer. By the early-stage fundraise, we may be seeing that firms are increasingly able to utilize their initial fundraise to demonstrate viability and create greater value. To look at this from another angle, we use a ratio called the velocity of value creation (VVC). This is calculated by dividing the change in valuation between rounds by the days between rounds. This ratio measures the value created (in millions) per days between valuations. Applying this ratio to early-stage deals, we see an upward trend demonstrating that ventures at the early stage are accelerating the rate of valuation growth and/or decreasing time between rounds.

$$VVC = \frac{\text{absolute change in valuation between rounds (\$M)}}{\text{days between rounds}}$$

Early-stage value creation spiked in 2018

Median early-stage VC VVC (\$M)



Source: PitchBook
*As of November 30, 2018

We are also seeing increasing amounts of capital flow into early-stage ventures, with 2018 seeing a decade high for capital invested. Increasing capital availability at early stages has enabled substantial valuation step-ups over the past two years, and we expect that they will continue to rise, breaking the 2.0x barrier. On average, although companies are waiting longer to raise an initial round of capital, the time between subsequent rounds is decreasing. Additionally, capital availability has increased. Due to these two factors, on average, startups at the early stages are more mature when raising capital and are able to secure greater valuations in subsequent rounds.

Although we are seeing greater capital availability in the VC ecosystem, fundraising has been shifting toward larger funds, especially in the \$100 million-\$500 million range. This means there is less new funding on an absolute basis available for smaller (early-stage) rounds, as well as less competition to push up deal sizes and valuations. We have seen this come to fruition over the past four years as angel & seed deal count has declined from 53.3% of venture deals to 41.3%. A continuation of this trend will likely lead to a reduction in competition and downward pressure on valuations.

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Prediction: Median angel & seed deal size will continue to climb.

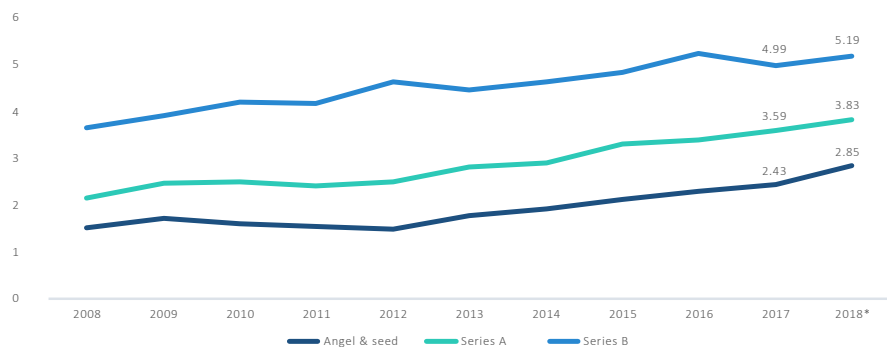
Rationale: The influx of capital into VC in conjunction with increasing median age of firms when raising capital means that firms are looking to raise larger rounds at the angel & seed stage.

Caveat: A sizable negative economic event would likely lead to a plateau or reversal of median angel & seed deal sizes unfolding over the course of several years.

Median angel & seed deal size has climbed steadily since 2012 from \$500,000 to \$1.2 million in 2018. Over the same period, the median age of firms at the angel & seed stage has nearly doubled as founders have learned to do more with less and as investors have shifted toward investing in more mature ventures. We have observed this shift toward more mature companies across deal stages. In 2016, companies raising angel & seed deals were older than the median age of Series A deals a decade ago. Likewise, in 2018, Series A deals were older than the median age of Series B deals a decade ago.

We see no reason why the median age of angel & seed firms will not continue to rise as access to incubators, accelerators and entrepreneurial resources expands and as investors' expectations in firm maturity continue to grow. These factors in combination with elevated levels of dry powder available across the venture ecosystem are creating dual forces of increasing the attractiveness of early-stage ventures and increasing the pressure and competition among VC funds to deploy capital.

Years since founding continue to climb Median years since founding by series

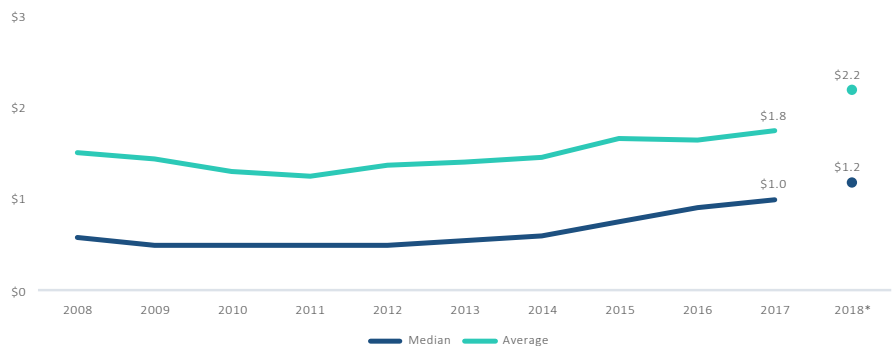


Source: PitchBook
*As of November 30, 2018

Despite the rosy outlook toward rising angel & seed deal sizes, it's important to note potential downside scenarios. Median deal sizes across stages have proven to correlate with the macroeconomic environment. For instance, we saw a decline in median deal sizes several years after the Great Recession in 2008. Economic and market indicators are signaling an impending market downturn within the next few years. Such an event would likely have a suppressive impact on deal sizes. An economic downturn might cause funding to dry up with outsized effect at the early stages as investors become less willing to invest in riskier ventures, instead turning to asset classes with better risk/reward outlooks.

Macroeconomic conditions have historically correlated with angel & seed deal size

Median & average US angel & seed deal sizes (\$M)



Source: PitchBook
*As of November 30, 2018

Fundraising of VC funds under \$50 million has hit its lowest point YTD since 2011. Funds under \$50 million are most likely to be focused on pre-seed and seed deals. At the same time, we have observed a significant increase in funds between \$100 million and 500 million and above \$1 billion. A shift from smaller to larger funds focused on late-stage ventures would put downward pressure on angel & seed deal sizes.

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Prediction: Growth in median fund size will decelerate.

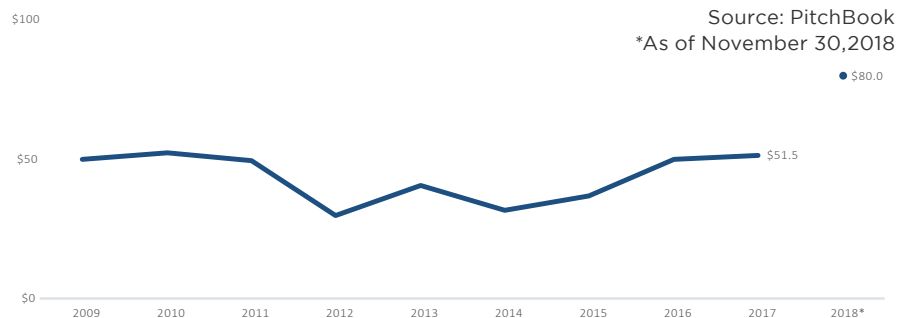
Rationale: For the last five years, the median venture fund size hovered between \$40 million and \$50 million. In 2018, however, median fund size skyrocketed to \$80.0 million at time of writing. GPs increasingly express the need for more capital to adequately compete in a world with SoftBank, while LPs still appear willing to make commitments to larger funds; however, we expect fund sizes will hit a ceiling as GPs refrain from raising excess capital to maintain venture-like returns. Subsequently, we believe fund sizes will begin to plateau at an elevated level as growth of the median fund size decelerates in 2019.

Caveat: PitchBook's 2018 Annual US Institutional Investors Survey suggests that LPs maintain a considerable appetite for private market fund investments. This positive LP sentiment could be further fueled by the multiple unicorn exits expected in 2019, which could help GPs secure outside fundraises for multiple years to come.

In line with our 2017 prediction, median fund size reached a high point in 2018, a phenomenon attributable to fewer micro-funds and vigorous fundraising of larger vehicles. Sitting at \$80.0 million, 2018's median fund size saw the highest growth rate in a decade with a 55% increase from the 2017 median. Some fund managers have noted in recent quarters that larger capital pools have become a competitive advantage due to the entrance of deep-pocketed non-traditional investors, namely SoftBank. Subsequently, we've seen 11 funds of \$1 billion or greater closed this year, in addition to 32 funds raised in the \$250 million-\$500 million range. Both counts represent decade highs for their respective size ranges. At the same time, micro-fund count has steadily trended downward with only 88 closed at time of writing, a 37.6% decline from 2014's peak levels.

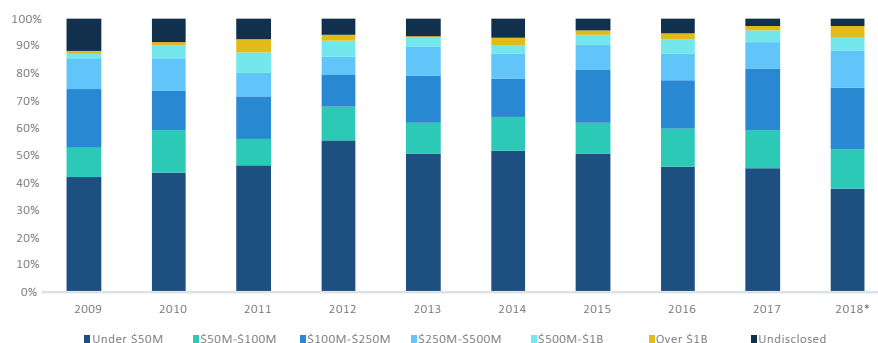
Median VC fund size trends to \$80.0M in 2018

Median US VC fund size (\$M)



With the venture ecosystem flush with ample capital, larger deals and valuations have become the new normal. Accordingly, venture investors, particularly those investing in developed venture ecosystems such as Silicon Valley, have reacted in kind by raising vehicles that facilitate participation in outside deals and significant follow-on reserves. Additionally, a combination of strong VC-backed exits in 2017 and 2018 have resulted in positive net cash flows to LPs, which seems to have aided VCs in securing recommitments from existing investors.

Micro-funds shrink as proportion of VC fundraising, while larger funds take over US VC funds (#) by size



Source: PitchBook
*As of November 30, 2018

We assert, however, that given recent inflationary dynamics in venture markets, larger funds may eventually make it harder to deliver venture-like returns to investors. Benchmark Capital, a prominent VC with early investments in the likes of Uber, WeWork and Instagram, reportedly stated in a shareholder meeting that it would “stick with a smaller pool of capital” to continue “maximizing gains in the winners.”¹ There may be a ceiling on reasonable fund size for startup financings, as investors run the risk of overpaying in deals given high levels of competition for too-few quality investment opportunities. Subsequently, we believe that GPs will find a plateau or ceiling of these larger funds that will result in slowed growth of median fund size in the years to come.

1: “Benchmark Capital Stays Lean, Even After \$14 Billion Bonanza,” The Wall Street Journal, Rolfe Winkler, August 21, 2018

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Prediction: Banks will back more institutional blockchain solutions.

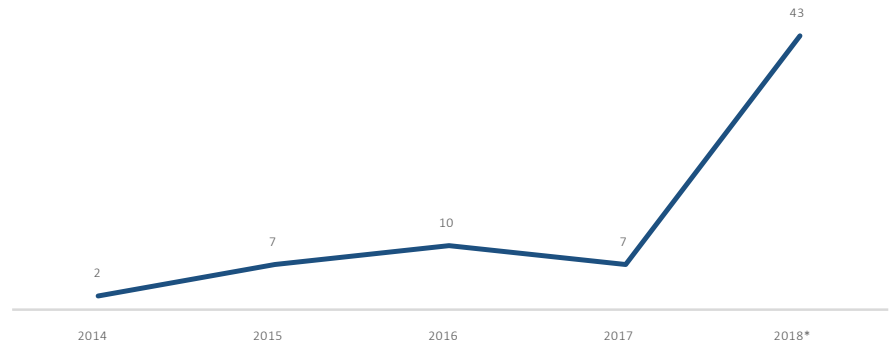
Rationale: As the hype for cryptocurrencies faded in 2018, blockchain for enterprise solutions received increasing consideration and investment. 2018 has seen landmark programs piloting the technology in capital markets. Additionally, leading banks participating in blockchain-focused consortia signal traction for the ecosystem. Given the operational efficiencies that can be achieved with institutional blockchain solutions, we expect more strategic investment from potential beneficiaries such as banks and financial institutions in the coming year, as measured by number of blockchain rounds with bank participation.

Caveat: Instead of investing in blockchain startups, banks will opt to develop the technology internally or rely on tech incumbents (e.g. Amazon, IBM) for blockchain solutions.

Though crypto-enthusiasts assert that blockchain can remove intermediaries altogether, enterprise blockchain startups such as R3 and Digital Asset are harnessing the technology to improve operations of deeply engrained institutions in capital markets. Financial institutions such as banks and clearing houses tend to have antiquated technological infrastructure, leading to inefficient recordkeeping and sluggish data reconciliation between parties. Startups employ blockchain's distributed database model to reduce the costs of coordination, improve KYC/AML compliance and bring about faster settlement of trades. Early adoption of blockchain could result in reduced operating costs and improved efficiency for financial institutions.

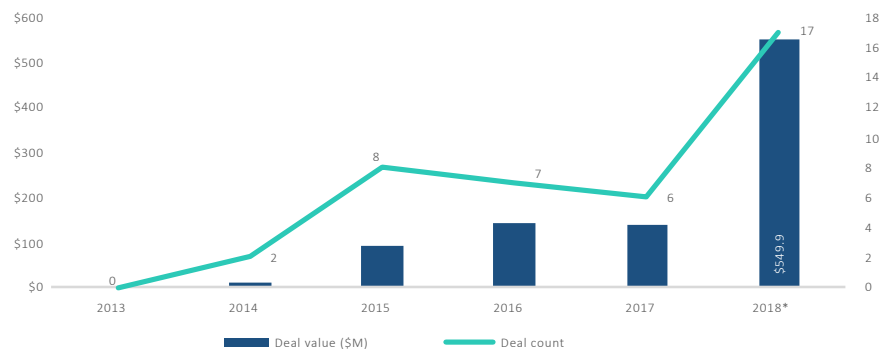
We've seen 43 bank investors participate in blockchain or crypto VC and growth equity investments in 2018, up from just seven in 2017. Though the technology is far from mainstream adoption, pilot programs with intermediaries such as the Depository Trust & Clearing Corporation (DTCC), Nasdaq, and the Australia Securities Exchange (ASX) signal exploratory moves that could lead to full-on future implementation. Banks have also tested the water with membership in blockchain consortia, such as the Enterprise Ethereum Alliance and Hyperledger, as well as some early investments in the space.

More than 40 banks participated in cryptocurrency/blockchain rounds in 2018
 Unique bank investors (#) participating in global cryptocurrency/blockchain VC & PE growth deals



Source: PitchBook
 *As of November 30, 2018

Blockchain financings with bank participation are expected to grow in 2019
 Global VC & PE growth deal activity in cryptocurrency/blockchain companies with bank investor participation



Source: PitchBook
 *As of November 30, 2018

As pilot programs reveal benefits or challenges in adopting blockchain platforms, we expect to see more banks and financial institutions backing the technology’s development. Should blockchain adoption become ubiquitous, early adopters that get ahead of the implementation curve could enjoy material advantages in operation improvements and reduced costs. However, some pilot programs could take years to play out, and it may take multiple years for more conservative financial institutions to buy in, given high switching costs and technological learning curves associated with blockchain. An additional factor that may deter startup investment is the option for banks to outsource blockchain solutions from trusted tech incumbents such as IBM and Amazon, which offer or have announced blockchain management offerings.

Select blockchain startups with VC from banks

Company name	Year founded	HQ	VC raised(\$M)
R3	2013	New York, NY	\$122.0
Algorand	2017	Boston, MA	\$62.0
Veem	2014	San Francisco, CA	\$61.4
Digital Asset	2014	New York, NY	\$60.0
Axoni	2013	New York, NY	\$56.0
I-House	2017	Hong Kong	\$30.0
TradelX	2016	London, UK	\$16.0
Everledger	-	London, UK	\$10.4
ID.me	2010	McLean, VA	\$10.4
Post-Quantum	2009	London, UK	\$10.3
PeerNova	2013	San Jose, CA	\$9.8

Source: PitchBook
*As of November 30,2018

Select banks with blockchain investments

Investor name	Closed rounds (#)
The Goldman Sachs Group	6
Citigroup	4
Silicon Valley Bank	4
BNP Partners	3
J.P. Morgan	2
Senahill Partners	2
TD Bank Group	1
GP Bullhound	1
Wells Fargo	1
Credit Suisse	1

Source: PitchBook
*As of November 30,2018