PitchBook

# The Emergence of Pre-Seed

## How seed-stage VC has developed and where we go from here

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## Contents



## Key takeaways

- As the seed stage has evolved, pre-seed emerged as a viable new stage with investors focused on funding the earliest stage of companies.
- Pre-seed diverged from seed stage in 2016, leading pre-seed and seed pre-money valuation medians to land at $6.1 million and $8.0 million, respectively.
- Firms are raising more rounds of capital prior to early-stage venture (Series A+). The average round number of seed rounds has increased from 1.2 in 2013 to 1.5 in 2019.


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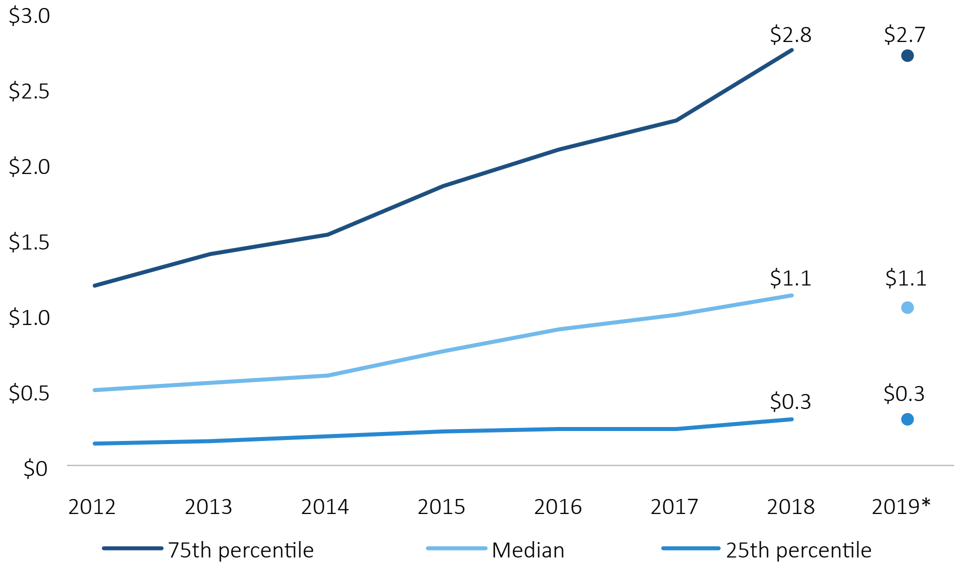
## Introduction

The term "seed" has been used for decades to describe the earliest stages of VC investment, but the definition has necessarily changed as the industry has matured. The seed stage has historically been defined by relatively small deal sizes often comprising convertible debt. Over the last decade, activity in the stage has grown rampantly, attracting new investors with larger pools of capital who have propelled US seed investment to $5.5 billion in 2018, a 36.6% CAGR since 2010.

The median seed deal size is now $2.1 million, compared with $1.0 million in 2015 and just $520,000 in 2009. Likewise, pre-money valuations have more than doubled from $3.9 million in 2012 to $8.0 million in 2019 to date. Changes to the VC landscape have led to evolving definitions. Seed deals today look more like Series A deals four years ago; Series A deals look like Series B deals six years ago, and so on. Interviews and anecdotal evidence have helped to better indicate the shifts that characterize current VC milestones.

| Stage | Typical 2019 maturity milestone |
|---|---|
| Seed | Minimum viable product (MVP) prepared and working on product/market fit. Have launched or are preparing to go to market |
| Series A | Achieved working product/market fit and have paying customers |
| Series B+ | Mitigated many business risks (e.g. product, market, financial, team etc.) and are focused on accelerating growth |

### Range of angel & seed deal sizes ($M)




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

This most recent evolution has led to a bifurcation in the seed market, spawning new terms including "pre-seed," "post-seed" and even "dirt stage" to describe the most nascent scenarios for which broader seed funding is utilized. In this note, we delve into the emergence of the seed stage as we know it today, explore the budding pre-seed stage and look ahead to how we expect the earliest stages of institutional investing to morph in the future.

## The seed stage's latest evolution

The seed stage is evolving primarily in response to a changing investor landscape. Thanks to a vibrant VC ecosystem, many successful startup alumni have turned to angel investing to put their capital to work in new startups. A portion of these angels go on to secure institutional backing for formalized funds that are typically directed into the seed stage.

Simultaneously, larger VC and PE funds have increasingly turned to the seed stage to tap into the growth of talented founders and well-positioned technologies prior to pricier late-stage financings. For example, Troy Capital, which participates in deals with an average size of $877.8 million (2015 to 2019 YTD), has raised a dedicated early-stage fund of just $20 million, enabling the firm to participate in a $2.2 million seed deal in 2018. Additionally, opportunities at the seed stage have attracted a variety of non-traditional investors, including asset managers, hedge funds and even direct investments from LPs such as public pensions and sovereign wealth funds. Seed investment count from these three investor types totaled 49 deals in 2018, which is a small but growing representation.[1]

### Examples of late-stage VCs and PEs investing at the seed stage (2015 to YTD*)

| Investor | Average deal size ($M) | Company | Deal size ($M) | Close date |
|---|---|---|---|---|
| Troy Capital Partners | $877.8 | Beauty By Design | $2.2 | January 30,  2018 |
| Shumway Capital | $831.2 | Side (Real Estate) | $2.5 | May 23, 2016 |
| ACE & Company | $783.3 | Goodly | $1.3 | March 27, 2019 |
| Valiant Capital Partners | $461.5 | Everlance | $3.0 | April 27, 2017 |

**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

1: All seed data excludes pre-seed deal activity

Another factor in the continued escalation of deal sizes and valuations at the seed stage is that companies are now able to bootstrap their way to levels of maturity that were inconceivable for previous generations of startups. We can see this highlighted in the historical median company age, which has continued to climb as startups delay raising traditional institutional capital, in large part because of the low cost of starting a business.

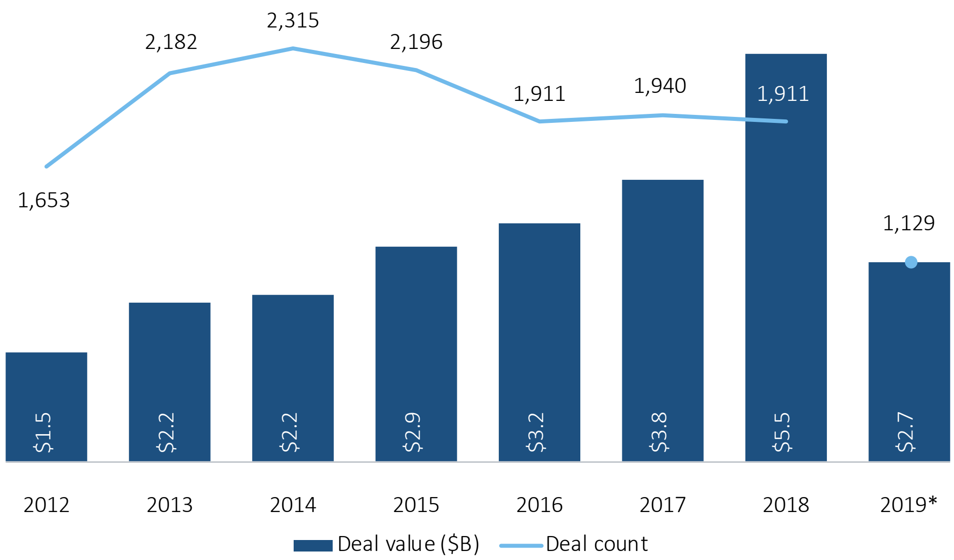
The emergence of cloud infrastructure and the commoditization of tech services have helped to decrease the cost to start and scale a business. The tools and software to create and bootstrap a startup can cost under $1,000 due to SaaS sales models and cloud computing.[2] In most cases, cloud services such as Amazon Web Services (AWS) and Microsoft Azure have replaced physical servers. Many business software applications have become much more affordable (or even free) by adapting to a SaaS model that allows startups to only pay for what they need.

Lean startup methodology has taught many companies how to quickly and inexpensively develop an initial product, garner rapid customer feedback and iterate towards product/market fit. Furthermore, companies such as Google and Facebook have enabled startups to launch targeted sales and marketing plans economically and with rapid feedback. This contrasts with older sales models whereby companies made a larger outright purchase of software and physical servers, among other costs. Although newer models tend to have the initial strategic benefit of a level of flexibility that allows for rapid scaling and growth, at scale, SaaS and "freemium" pricing model costs tend to run on par with or higher than traditional models. The evolution of the tech stack has enabled startups with seed capital to put that money to work and scale rapidly; however, firms who have not yet reached a level of momentum still face the challenge of raising the capital to establish an MVP and begin developing the business. Looking forward, we expect to see continued evolution of seed investment as the stage continues to partition and crystalize and as alternative forms of early-stage funding continue to emerge.

From the investor perspective, VCs seek to balance the goal of optimizing for return with the financial and resource constraints required to conduct due diligence for startups. It is inherently easier to invest in startups that have achieved a level of momentum, particularly for nontraditional seed investors that often look to back startups that show traction in addressing early-

2: "How Much Does It Cost to Start a Software Company?" Inc., Paul Jarvis, May 19, 2016 business lifecycle issues such as product/market fit and value propositions—characteristics of business progress. Given the current market incentives to scale quickly, startup founders are willing to exchange sizable chunks of equity to fund their startups through the earliest and most difficult development phases. The focus on a select group of fast-moving seed startups, as well as the escalation of deal sizes and declining deal counts, have created a gap at the earliest stages of the funding landscape. To fill this need, investors have emerged to provide that initial VC in the market.

### Seed deal activity




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019
*Note: Excludes "pre-seed" identified deals*

## Pre-seed: VC getting back to its roots

As the seed stage has matured, the pre-seed stage has emerged to provide capital at the pre-product stage or even before a company is incorporated. Self-described pre-seed investors have generally classified deals at this stage as sized under $1 million, with pre-money valuations ranging from $3 million to $5 million.

Identifying and measuring pre-seed deals is a challenge; there is minimal press coverage of seed deals—let alone pre-seed deals—and many pre-seed startups and investors do not self-identify themselves as such. As an added difficulty, due to the nascency of the stage, PitchBook does not yet categorize deals as pre-seed. In order to measure pre-seed deals and compare them with seed-stage deals, we developed a list of 126 investors that have been described publicly as focusing on the pre-seed stage. We applied the following criteria to all deals in which these investors participated to reduce error and outliers:

- Participation from a designated pre-seed investor
- Deal type is angel, seed or early-stage VC[3]
- Only includes the earliest deal with pre-seed investor participation
- Excluding outliers based on age, deal size and pre-money valuations

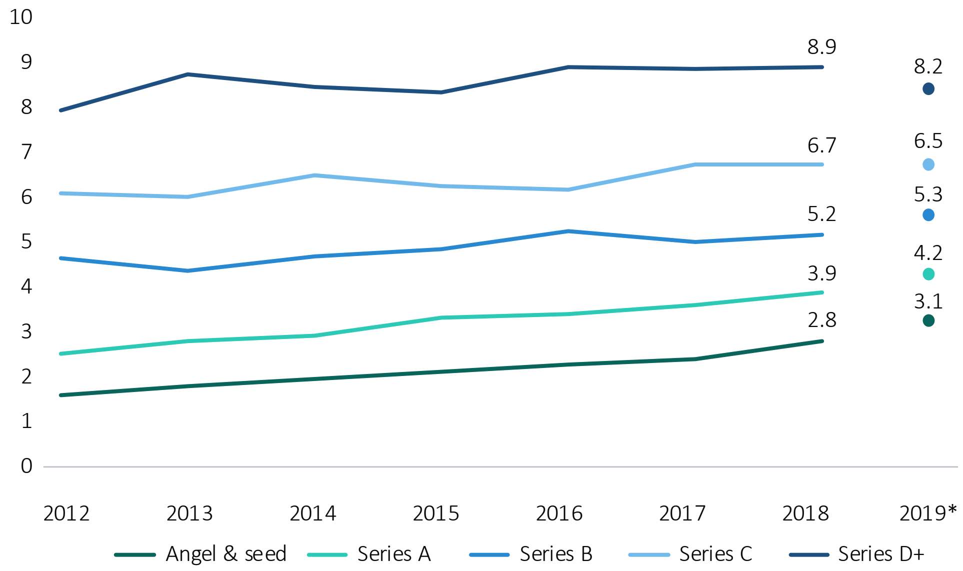
*Outliers included deals that had deal sizes, pre-money valuations and years since founding at fundraise that were above the top quartile plus 1.5x interquartile range (i.e. top quartile minus bottom quartile), also known as interquartile outliers.*

Lastly, because the pre-seed stage appears to be relatively new, we limited our search results to deals occurring in 2012 or later. We anticipate that the definitions of seed and pre-seed will continue to evolve and lead to future adjustments in our search criteria.

Taking a closer look at deal activity, we can see that pre-seed activity has become an increasingly popular source of capital for entrepreneurs, rising to 386 US deals in 2018, up from 347 deals in 2012. Although deal value has generally steered higher, deal count has declined since 2014, a trend that aligns with overall seed activity in the US. Our next step for future analysis is to modify our criteria to identify pre-seed deals without relying on known pre-seed investors.

3: Early stage excludes deals with a specified series (e.g. early-stage Series A).

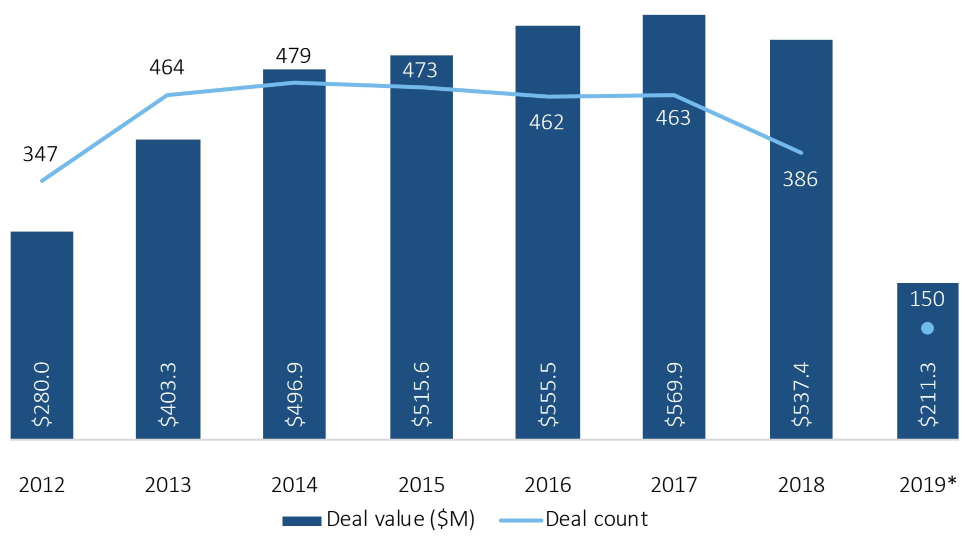
### Median company age (years) by stage




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

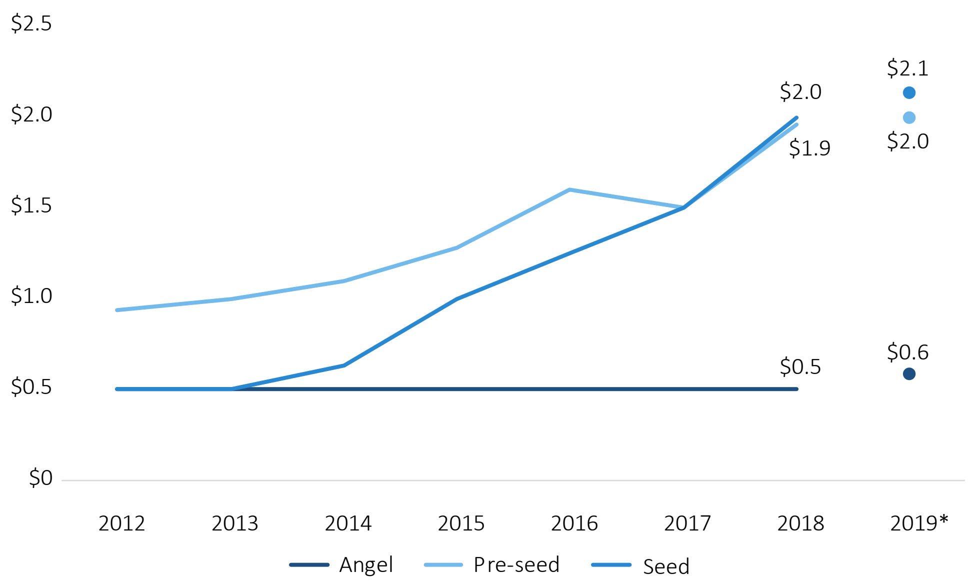
Analyzing deal size medians, we expected to see a clear bifurcation between seed and pre-seed, with pre-seed deals landing between seed and angel. Instead, we were surprised to observe the opposite, with pre-seed deal size medians sitting $440,000 higher than seed-stage medians in 2012 and converging with seed medians in 2017. Although median pre-seed deal size was under $1 million in 2012, it has since risen to $2 million. This suggests that the stage has outgrown the typical size features cited by pre-seed investors. In 2018 and 2019, we have observed median seed deal sizes shift higher than pre-seed for the first time. Although this conforms to our expected deal size bifurcation, the widening chasm is more a reflection of the continued investor fervor and competition at the seed stage. Going forward, we expect the gap between median seed and pre-seed deal sizes will continue to widen as pre-seed investors direct capital into the earliest ventures.

## Pre-seed deal activity




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

## Median VC deal size ($M) by stage




**Source**: PitchBook | **Geography**: US
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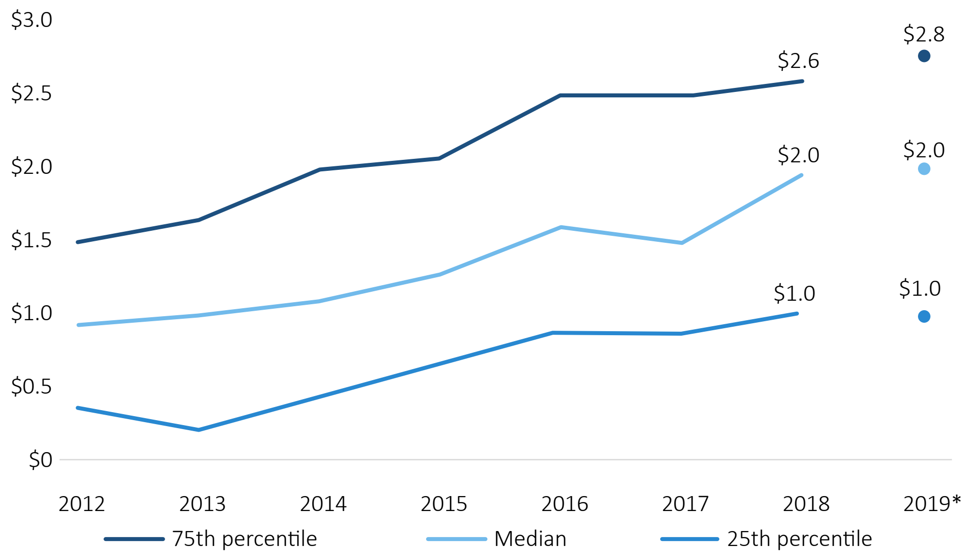
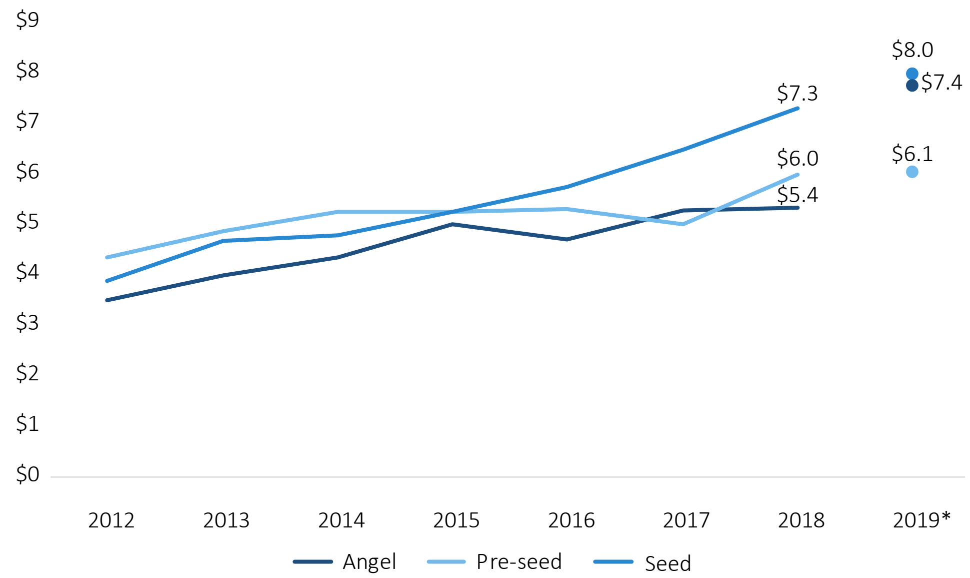
### Range of pre-seed deal sizes ($M)




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

While seed and pre-seed deal sizes have recently begun to diverge, pre-seed deals have adhered closer to angel deals and seen clearer bifurcation in terms of pre-money valuations over the past five years. We were, again, surprised to see 2012 to 2014 pre-money valuation medians sitting higher at the pre-seed stage than at the seed stage, although the trend reverses after 2015. Survivorship bias may play a contributing factor here, as successful pre-seed investors have doubled down on their focus on startups at the earliest stages of development. This dynamic may have had an outsized effect in abating the growth of deal size and valuation medians over the past decade as seed activity climbed. Investor interviews suggested that pre-seed pre-money valuations would fall between $3 million and $5 million. The data indicates that medians have hewed closely to this range, creeping up to $6 million over the past two years. In fact, a more accurate range is likely $4.0 million to $7.5 million, the top and bottom quartiles of pre-seed pre-money valuations in 2019 to date. It's possible that the pre-seed stage is not immune to the upward pressures on deal sizes and valuations that have affected other venture stages.

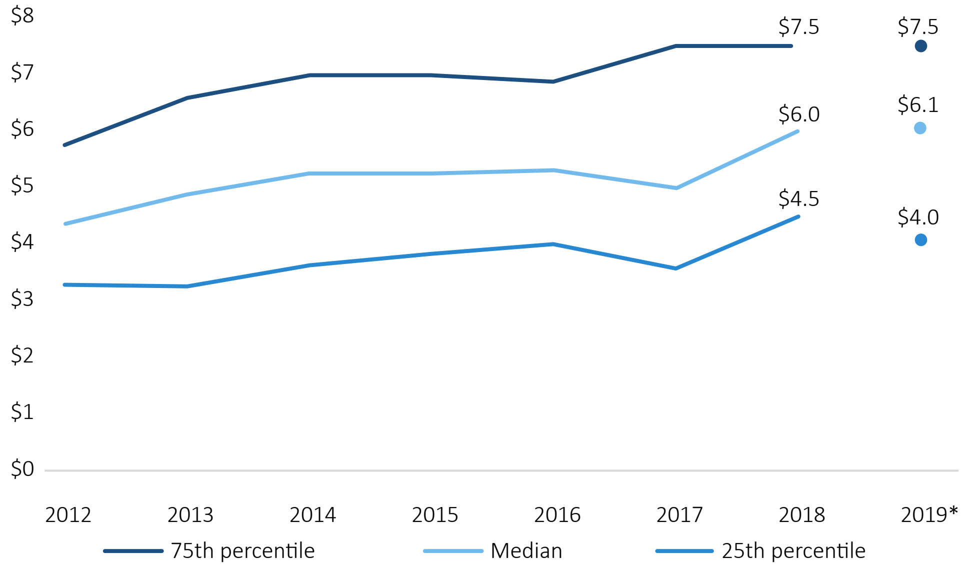
Median VC pre-money valuation ($M) by stage




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

Alongside our deal size data, the accompanying chart highlights how pre-seed companies are raising larger rounds even while valuations have remained largely flat. Essentially, founders are giving up larger equity stakes in order to raise that initial funding to launch their business. One possible reason for this is an early need for startup capital prior to demonstrated success due to the type of business model, industry or a lack of access to accelerators, incubators and alternate sources of funding. The flexibility afforded to startups by creating more funding opportunities ultimately improves product offerings and increases startup diversity. We expect that the percent of a company acquired at the pre-seed stage will continue to be higher than at seed stage due to the increased risk assumed by investors and the lack of demonstrated success inherent to this stage.

Range of pre-seed pre-money valuations ($M)

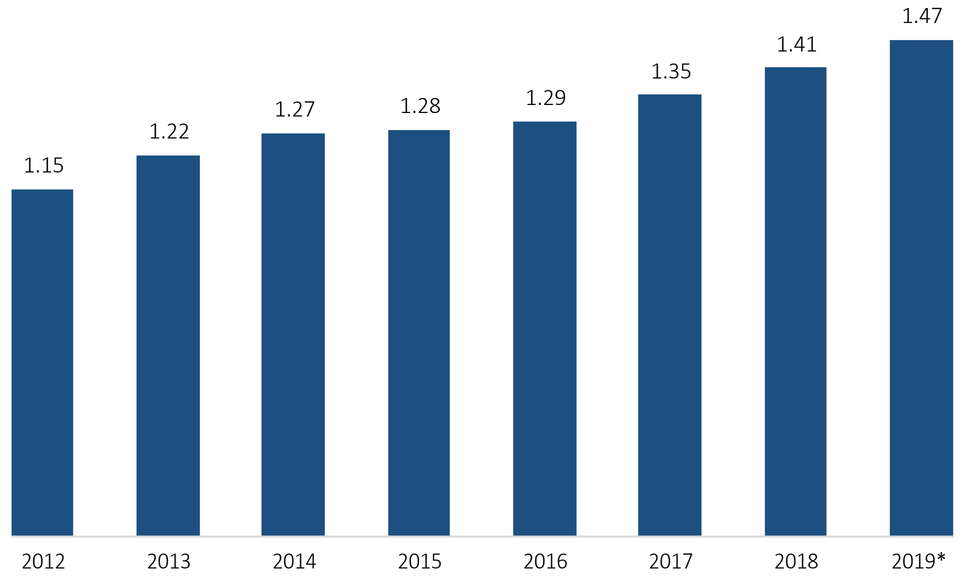



**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

*Clearly, investors are pouring record amounts of capital across the VC ecosystem. A side effect of this is increasing deal sizes and maturity expectations at nearly every stage. For example, whereas a VC investor may have previously expected a SaaS startup to have at least $1 million in annual recurring revenue (ARR), that number could be $5 million today. This trend is leading to an increase in the average number of capital raises for VC-backed companies. The average number of institutional rounds raised prior to an early-stage round has risen from approximately 1.2 rounds in 2012 to 1.5 rounds in 2019 YTD. Raising additional rounds of capital provides startups time and money to work through early-stage problems and risks, but it also means that startups are giving up a greater percentage of ownership.*

## Sowing innovation

Average institutional rounds (seed or earlier) raised prior to first early-stage round (Series A or later)




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019

These dynamics lead pre-seed investors to focus on certain business models and problem areas that require more time and money to reach the growth milestones expected from investors at each stage in the startup lifecycle. Frontier technologies such as synthetic biology and embodied artificial intelligence (AI) can take longer than normal to reach venture-investible norms. As expectations have risen and crystalized at the seed stage, pre-seed investors have emerged to help these longer-term bets grow—sometimes from just a team and an idea—before establishing revenue and product-market fit and maturing into full-fledged businesses. Although pre-seed investors are not the sole funders of these moonshot ideas, they tend to be among the first willing to provide backing until the idea gains traction with more mainstream investors.

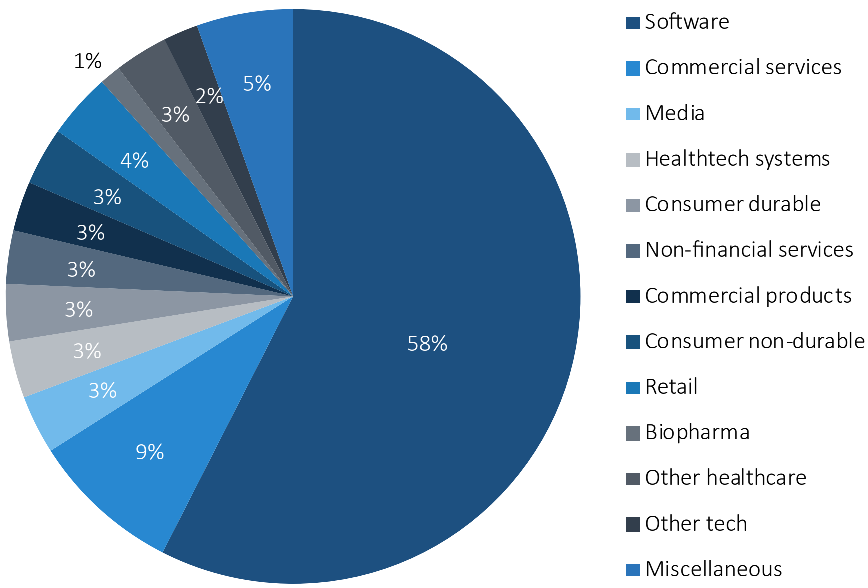
For example, pre-seed investor NextView Ventures participated in a 2016 pre-seed investment in autonomous driving company Optimus Ride under the VC's thesis of investing in digital solutions for everyday life, such as for transportation. Seedcamp participated in an $800,000 pre-seed investment in plant-based food startup This in May 2019 to back a viable vegetarian alternative to meat. Investors are interested in the pre-seed stage due to the attractive return potential as well as a level of interest or expertise to pick winning startups and invest in promising technologies that might only make it to market but for the pre-seed capital. We expect that pre-seed investors will continue to participate in the earliest funding rounds of frontier technologies due to a strong conviction around long-term bets.

Self-described pre-seed investors have narrowed in on frontier technologies for a variety of reasons. Some GPs are former angel investors who have institutionalized or VCs who have broken off to start their own fund. Due to a lack of investment history, most first-time funds are confined by size and therefore invest at the pre-seed stage. Many first-time GPs go on to raise larger funds, but others find their niche investing in very early-stage ventures. For example, Right Side Capital Management (RSCM) was founded by serial entrepreneur Dave Lambert and two other former entrepreneurs to exclusively invest in the pre-seed stage. RSCM has raised three closed funds, all under $20 million.

Some GPs have identified the seed stage as the stage in the fundraising lifecycle when capital can be most scarce for founders, and where initial capital and VC expertise is most needed. The team at Afore Capital is explicit about their willingness to invest in raw business ideas provided the other ingredients (vision, team, etc.) meet their requirements. Other GPs have specific thematic focuses on technologies and business models that fall out of the norm of venture-investible businesses. For example, Cantos Ventures is currently interested in deep tech concepts addressing biology-as-code, embodied AI and neo-computing, which require technologies that will likely take longer to develop than the standard five-year to seven-year investment time horizon.

VCs invest at the pre-seed for a variety of reasons. The common thread is that these investors believe they can source and structure deals at this early stage that provide an attractive risk/return profile relative to other stages of VC investing. Our initial hypothesis was that pre-seed investors would lean more towards hardware-based technologies (captured in other tech and other healthcare categories) and industries where it is typically more difficult to obtain VC investment. Contrary to expectations, the proportion of software deals by count was nearly 20% higher for pre-seed deals than for traditional seed deals. In an effort to mitigate risk, pre-seed investors likely put increased focus on software-based technologies, which tend to scale with more capital efficiency than hardware.

**Pre-seed deals (#) by sector from 2015 to YTD***




**Source**: PitchBook | **Geography**: US
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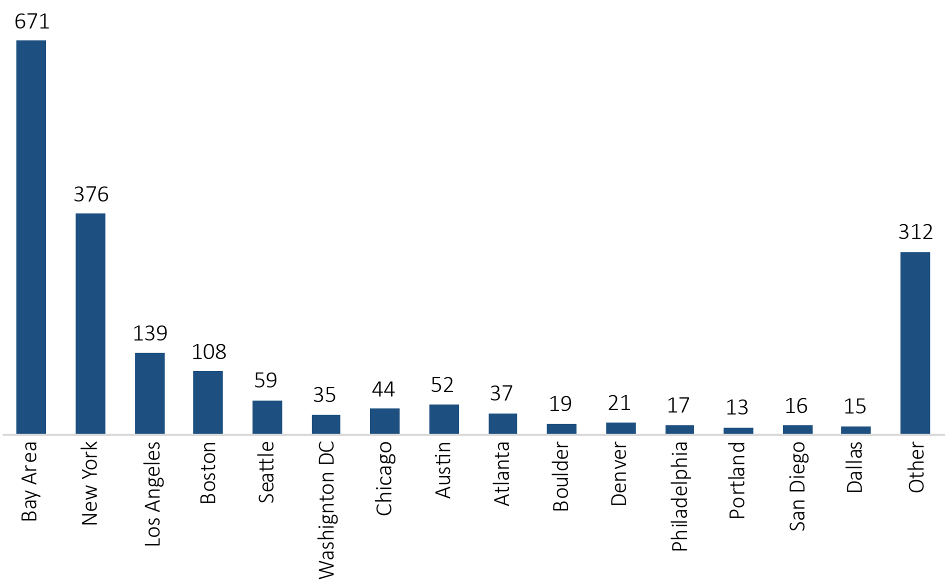
Pre-seed deal activity falls largely in line with US geographical investment norms. 34.7% of pre-seed deals (by count) have occurred in the San Francisco Bay Area over the 2015-2019 time period. For reference, that compares to 20.1% for all stages over the same time period. New York-area pre-seed activity has been nearly as strong at 19.4%, compared to 10.5% overall VC activity over the same time period. We see this as evidence suggesting that the pre-seed phenomenon is a natural outcome of a heated venture ecosystem in the Bay Area and New York, where the volume of activity has led to a bifurcation of the entire seed stage. Additionally, it ties to the relationship-driven nature of VC, in which strong relationships may alleviate some of the concerns of risks present with very early-stage ventures.

**Pre-seed deals (#) by metro from 2015 to YTD***




**Source**: PitchBook | **Geography**: US
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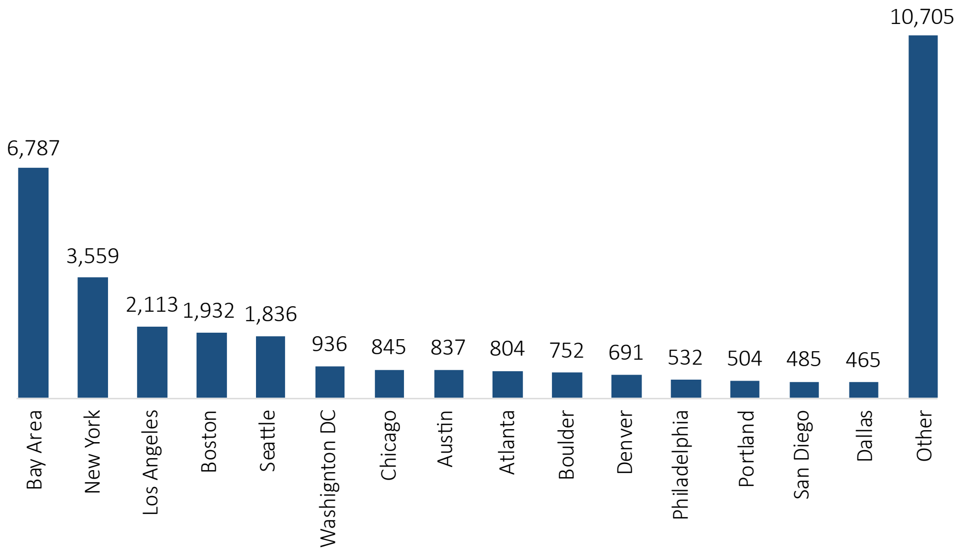
VC-backed deals (#) by metro from 2015 to YTD*




**Source**: PitchBook | **Geography**: US
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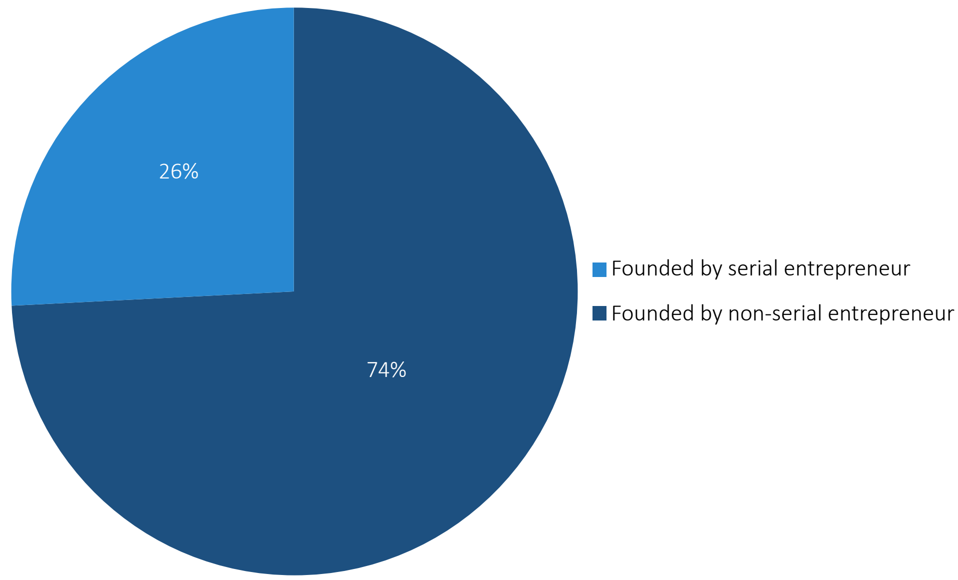
One final factor contributing to the expansion of the pre-seed stage is the fact that it provides serial entrepreneurs with initial working capital to fund an ambitious new venture. At the earliest stages, investors often have little data with which to evaluate a new business. Serial entrepreneurs have a level of built-in validation from previous ventures and may be able to secure pre-seed capital without typical levels of business maturity. To test this, we compared the percentage of companies led by serial entrepreneurs between pre-seed-backed firms and against VC-backed firms who have not raised a pre-seed, analyzing VC-backed firms that have raised a round since 2015. The data appears to validate this hypothesis, with 25.7% percent of pre-seed firms led by serial founders, versus 15.2% for non-pre-seed. Examples of serial entrepreneurs who have raised pre-seed capital include Howard Leonhardt, who has founded over 30 companies, most recently biotech company InStim, as well as Bill Gross (not to be confused with investor Bill Gross of PIMCO), who has founded at least 15 companies, most recently Edisun Microgrids.

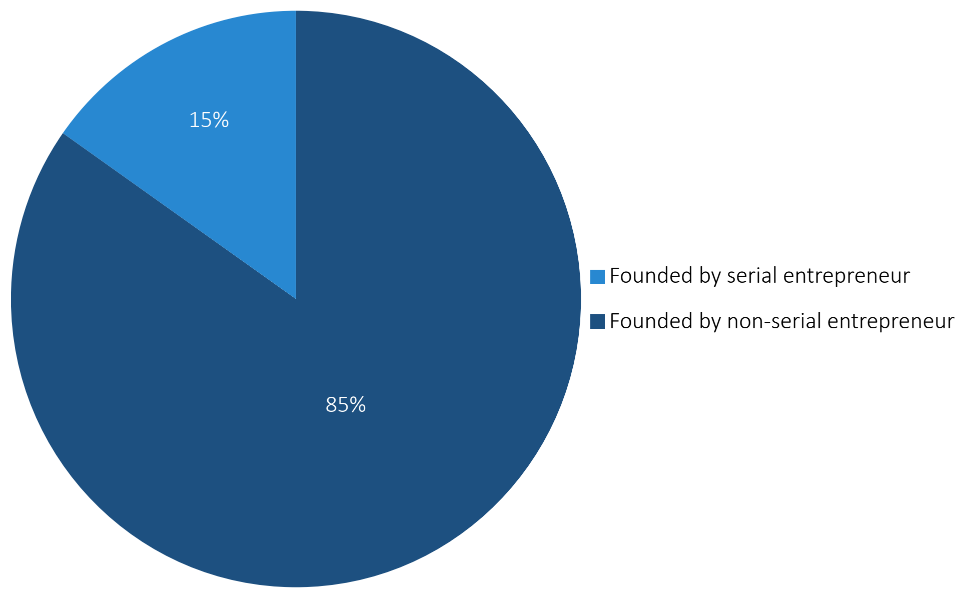
| Stage | Count |
|---|---|
| Total pre-seed companies founded | 1,934 companies |
| Pre-seed companies with founders who have founded prior companies (serial entrepreneur) | 498 companies |
| Percentage of pre-seed companies founded by serial entrepreneurs | 25.7% companies |

## Pre-seed-backed companies by founder type*




**Source**: PitchBook | **Geography**: US
*As of August 26, 2019
*Note: A serial entrepreneur is defined as someone who has founded two or more companies*

## Non-pre-seed-backed companies by founder type*

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## Conclusion

The seed stage continues to evolve and subdivide. Terms including pre-seed and even post-seed have emerged to describe the widening number of scenarios for which broader seed funding is utilized. An increasing number of early-stage funding rounds place credence on startup founders’ willingness to exchange elevated levels of equity to fund their startups through the earliest and most difficult development phases. We expect to see continued evolution of seed deals as the stage continues to partition and crystalize, and as alternative forms of early-stage funding emerge.